

Products

Fluorinated performance products

Fluorinated Surfactant

Surflon

Fluorinated Surfactant

Fluorinated Surfactant[Surflon] was developed by Asahi Glass Co., Ltd. And Seimi Chemical Co., Ltd. through the application of the techniques accumulated for many years in the field of fluorine. Surflon with perfluoroalkyl group in molecular structures provide many unmatched properties and performances not available with hydrocarbon surfactants. In addition to various kinds of line up, we develop new grades of Surflon for meeting customers' needs with our potential of organic fluorine chemistry and the experience.

• Characteristics of Surflon

1.Surface tension can be lowered remarkably.

Surflon can provide low surface tension which can not be attained by the conventional surfactants.

For example, Surflon is effective to improve wetting of solid surface, levelling of solution system and foam stability in fire fighting system.

2.Effective at low concentration

Perfluoroalkyl group with linear and rigid structure has a property to align parallel and provides excellent performance at low concentration.

3.Usable in organic solvents

Perfluoroalkyl group has hydrophobic and lipophobic character. By combination of Perfluoroalkyl and lipophilic groups, Surflon shows surface activity even in organic Solvents.

• Water soluble grades(1)

Grade	S-111	S-112	S-113	S-121
Ionic nature	Anionic	Anionic	Anionic	Cationic
Structure	Salt of F-alkyl Carboxylic acid	F-alkyl Phosphate	Salt of F-alkyl Carboxylic acid	F-alkyl trimethyl ammonium

Straw

Yellow

Appearance	Light yellow liquid	colored Dispersing liquid	Light yellow liquid	brown liquid
Solid Content % by weight	30	15	30	30
Solvent	Water/IPA	Water	Water/IPA	Water/IPA
Flash point (°C)	18°C	-	18.5°C	23°C
Surface Tension (mN/m, 25°C)	0.01% 30.0	39.0	22.5	17.0
	0.1% 17.0	37.4	15.8	16.2

• Water soluble grades(2)

Grade	S-131	S-132	S-141	S-145
Ionic nature	Amphoteric	Amphoteric	Nonionic	Nonionic
Structure	F-alkyl Betaine	F-alkyl Betaine	F-alkyl amine oxide	EO adduct of F-alkyl amide
Appearance	Light yellow liquid	Light yellow liquid	Light yellow liquid	Yellow brown liquid
Solid Content % by weight	30	30	30	30
Solvent	Water/IPA	Water/IPA	Water/IPA	Water/IPA
Flash point (°C)	22°C	22°C	28°C	26°C
Surface Tension (mN/m, 25°C)	0.01% 16.0	22.5	16.0	16.0
	0.1% 15.5	17.0	15.5	15.5

• Oil soluble grades(1)

Grade	S-381	S-383	S-393
Ionic nature	Nonionic	Nonionic	Nonionic
Structure	Oligomer with F-alkyl group	Oligomer with F-alkyl group	Oligomer with F-alkyl group

Solid Content %,by weight	70	50	100
Solvent	Ethyl acetate	-	Ethyl acetate
Flash point (°C)	- 5°C	- 20°C	60°C
Solubility to water	Soluble	Insoluble	<0.05%
Viscosity (mPa·s,25°C)	300	7.8	640(80°C)
Water (72.5)	17.5	-	32.3(0.01%)
Surface Tension (0.1%) (mN/m, 25°C)	Ethyl acetate (23.9) Toluene (28.4) Ethyl Cellosolve (32.0)	23.5 20.7 21.0 21.6	21.5 16.3 18.8

• Oil soluble grades(2)

Grade	S-101	KH-40	SA-100
Ionic nature	Nonionic	Nonionic	Nonionic
Structure	Oligomer with F-alkyl group	Adduct of Rf-Epoxy and EO	Blend of Rf-oligomer and HC-surfactant
Appearance	Light yellow viscous liquid	Light yellow viscous liquid	Light yellow viscous liquid
Solid Content %,by weight	30	100	36
Solvent	Ethyl acetate	-	Water/Ethanol /Ethyl acetate
Flash point (°C)	-12°C	-	23°C
Solubility to water	Insoluble	<0.05%	Soluble
Viscosity (mPa·s,25°C)	2.2	140(50°C)	31.7

Water (72.5)	-	23.6(0.01%)	22.0
Surface Ethyl Tension acetate (0.1%) (23.9)	21.0	23.9	-
(mN/m, Toluene 25°C) (28.4)	20.4	28.4	-
EthylCellosolve (32.0)	19.1	28.2	-

For particulars, please apply to the Sales and
Marketing Group of Chemicals Div.

e-mail : tky-info@seimichemical.co.jp



Tel : +81-3-3866-7623

Fax : +81-3-3866-7098

⋄ BACK

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History

- 2000 Started production of Chloromethylstyrene.
- 1998 Obtained ISO certification.
Started production of SELION(Ni).
- 1997 Celebrated 50th anniversary.
- 1995 Started production of SELION(Co), inorganic mixed oxide powders for Lithium-ion secondary battery applications.
Started production of DFS liquid crystals.
Started production of reagent grade caustic soda pellet.
- 1993 Started production of SEIMICRON(CMP slurry).
- 1992 Commissioned Kashima plant. 
- 1984 Merged with ASUNY INC., another Asahi Glass affiliate and became "Seimi Chemical Co.,Ltd.". 
- 1983 Started production of FM Series, fluorinated intermediates for pharmaceuticals.
- 1982 Started production of LUMIFLON, high durability paint.
- 1981 Started production of SF coat, Anti Flux Migration Agent.
- 1979 Started production of SURFLON, fluorinated surfactant.
- 1978 Started production of Liquid Crystals.
- 1968 Started production of Chloromethylstyrene, a monomer for high-performance polymer production.

● 1958

Started production of glass polishing agent.



● 1947

Established December
18, 1947.



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STIC Search Report

EIC 1700

STIC Database Tracking Number: 93783

**TO: Binh X Tran
Location: CP3 10D04
May 15, 2003**

Case Serial Number: 09/401490

**From: Kathleen Fuller
Location: EIC 1700
CP3/4 3D62
Phone: 308-4290**

Kathleen.Fuller@uspto.gov

Search Notes

Access DB# 93783

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Binh Tran Examiner #: 76892 Date: 5/12/03
Art Unit: 1765 Phone Number 308 1867 Serial Number: 09/401490
Mail Box and Bldg/Room Location: 10 D04 Results Format Preferred (circle): PAPER DISK E-MAIL
CP3

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Resist Composition and Patterning Method
Inventors (please provide full names): Satoshi Watanabe; Toyohisa Sakurada
Yoshitaka Yanagi; Shigehiro Wagura; Toshinobu Ishihara
Earliest Priority Filing Date: 09/22/98

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

09/401,490

- ① A composition comprising:
- a fluorocarbon surfactant (i.e. KH-20; KH-30, KH-40 trademark of Asear Glass)
 - a photo-acid generator capable of generating acid upon exposure to deep UV, X-ray or - Electron beam
 - a base resin of an alkali-insoluble or scarcely insoluble resin (e.g. novolak resin, polyhydroxystyrene)

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>K. Fuller</u>	NA Sequence (#)	STN <u>✓</u>	
Searcher Phone #:	AA Sequence (#)	Dialog	
Searcher Location:	Structure (#) <u>2</u>	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic	Dr. Link	
Date Completed: <u>5/15/03</u>	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: <u>30</u>	Fulltext	Sequence Systems	
Clerical Prep Time:	Patent Family	WWW/Internet	
Online Time: <u>85</u>	Other	Other (specify)	

EIC1700

Search Results

Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the EIC searcher* who conducted the search *or contact*:

Kathleen Fuller, Team Leader, 308-4290, CP3/4 3D62

Voluntary Results Feedback Form

➤ *I am an examiner in Workgroup:*

Example:

➤ *Relevant prior art found, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms in CP3/4 - 3D62 .

=> FILE REG

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 14 MAY 2003 HIGHEST RN 515808-31-8
 DICTIONARY FILE UPDATES: 14 MAY 2003 HIGHEST RN 515808-31-8

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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FILE COVERS 1907 - 15 May 2003 VOL 138 ISS 20
 FILE LAST UPDATED: 14 May 2003 (20030514/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L2 3 SEA FILE=REGISTRY ABB=ON (251907-30-9/BI OR 275364-62-0/BI OR 275364-64-2/BI)
 L4 170015 SEA FILE=REGISTRY ABB=ON (C(L)F(L)H(L)O)/ELS(L)4/ELC.SUB.
 L5 125616 SEA FILE=HCAPLUS ABB=ON L4
 L6 2790 SEA FILE=HCAPLUS ABB=ON L5(L)?RESIST?
 L7 676 SEA FILE=HCAPLUS ABB=ON L6 AND PHOTOG?/SC,SX
 L8 881 SEA FILE=HCAPLUS ABB=ON L5(L)?SURFACTANT?
 L9 15 SEA FILE=HCAPLUS ABB=ON L7 AND L8
 L10 9 SEA FILE=HCAPLUS ABB=ON L2

surfactants in chem
fluoro compounds

L14 41 SEA FILE=HCAPLUS ABB=ON L7 AND SURFACTANT?
L15 50 SEA FILE=HCAPLUS ABB=ON L9 OR L10 OR L14
L16 6862 SEA FILE=HCAPLUS ABB=ON (FLUOR? OR PERFLUOR? OR F) (2A) SURFACTA
NT?
L17 1097 SEA FILE=HCAPLUS ABB=ON L16 AND ?RESIST?
L18 366 SEA FILE=HCAPLUS ABB=ON L17 AND PHOTOG?/SC, SX
L21 4 SEA FILE=HCAPLUS ABB=ON L18 AND CONTACT? (2A) ?ANGLE?
L22 250 SEA FILE=HCAPLUS ABB=ON L18 AND SURFACTANTS/IT
L23 126 SEA FILE=HCAPLUS ABB=ON L22 AND (COMPOSITION? OR COMPNS)
L24 66 SEA FILE=HCAPLUS ABB=ON L23 AND MOA/RL
L25 11 SEA FILE=HCAPLUS ABB=ON L24 AND RESISTS/IT
L26 39 SEA FILE=HCAPLUS ABB=ON L22 AND PHOTO? (3A) ?GENERAT?
L27 93 SEA FILE=HCAPLUS ABB=ON L15 OR L21 OR L25 OR L26
L28 83 SEA FILE=HCAPLUS ABB=ON L27 AND PHOTOG?/SC
L29 76 SEA FILE=HCAPLUS ABB=ON L28 AND SURFACTANT?/IT
L30 732 SEA FILE=HCAPLUS ABB=ON FLUOROSURFACTANT?
L31 104 SEA FILE=HCAPLUS ABB=ON L30 (L) ?RESIST?
L32 54 SEA FILE=HCAPLUS ABB=ON L31 AND PHOTOG?/SC
L34 29 SEA FILE=HCAPLUS ABB=ON L32 AND (COMPOSITION? OR COMPNS)
L35 88 SEA FILE=HCAPLUS ABB=ON L29 OR L34
L36 79 SEA FILE=HCAPLUS ABB=ON L35 AND (RESISTS/IT OR PHOTORESISTS/IT
)
L37 70 SEA FILE=HCAPLUS ABB=ON L36 AND (COMPOSITION? OR COMPNS)
L38 77 SEA FILE=HCAPLUS ABB=ON L37 OR L10

=> D L38 ALL HITSTR

L38 ANSWER 1 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2003:317558 HCAPLUS

TI Positive chemically amplified **resist compositions**

having high resolution and suppressed dependency of focus latitude on
pattern density

IN Kodama, Kunihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 46 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08F020-00; C08F024-00; C08K005-42; C08L033-00; C08L037-00;
G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003122012	A2	20030425	JP 2001-320380	20011018
PRAI	JP 2001-320380		20011018		

AB The **comps.** contain (A) compds. which generate C.gtoreq.2
F-substituted sulfonic acids by irradiation of actinic ray or radiation and
(B) resins which can be decomposed with acids and increase rate of
dissoln. toward alkali developers, contg. .gtoreq.1 repeating units
selected from I and II (R1 = alkyl, acid-decomp. group; m = 0-4 integer;
n = 0-10 integer; R2, R3 = H, alkyl, cycloalkyl, acid-releasable
protection group). Preferably, A comprise sulfonium salts. Preferably,
the **comps.** further contain F-based

surfactants or silicone-based surfactants and bases which may be selected from those having structures of alkylamine, ether bond-contg. alkylamine, HO-contg. alkylamine, aniline, pyridine, diazabicyclo, ammonium hydroxide, ammonium carboxylate, and imidazole.

ST pos chem amplified **resist** fluorinated sulfonium salt;
photoacid generator sulfonium salt pos **resist**;
cardo methacrylate polymer pos deep UV **resist**; cycloalkane polymer pos deep UV **resist**

IT INDEXING IN PROGRESS

IT Amines

IT Bases

RL: MOA (Modifier or additive use); USES (Uses)
(acid diffusion suppresser; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT Cardo polymers

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT Sulfonium compounds

RL: CAT (Catalyst use); USES (Uses)
(**photoacid generator**; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT Positive **photoresists**
(pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT **Surfactants**
(silicones or F compds.; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT Polysiloxanes

RL: MOA (Modifier or additive use); USES (Uses)
(**surfactant**; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT 102-82-9, Tri-n-butylamine 484-47-9, 2,4,5-Triphenylimidazole
1116-76-3, Tri-n-octylamine 2052-49-5, Tetrabutylammonium hydroxide
19293-63-1, Dicyclohexylmethylamine 19600-49-8, Triphenylsulfonium acetate 24544-04-5, 2,6-Diisopropylaniline

RL: MOA (Modifier or additive use); USES (Uses)
(acid diffusion suppresser; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT 3744-08-9P, Triphenylsulfonium iodide

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in sulfonium salt prepn., for **photo acid generator**; pos. chem. amplified **resist** **comps.** having high resolu. and suppressed dependency of focus latitude on pattern d.)

IT 96-48-0, .gamma.-Butyrolactone 97-64-3, Ethyl lactate 108-94-1, Cyclohexanone 1320-67-8, Propylene glycol monomethyl ether 84540-57-8, Propylene glycol monomethyl ether acetate

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; pos. chem. amplified **resist** **comps.**

having high resoln. and suppressed dependency of focus latitude on pattern d.)

IT 945-51-7, Diphenyl sulfoxide 1763-23-1, Perfluoro-n-octanesulfonic acid 14067-34-6, Copper benzoate

RL: RCT (Reactant); RACT (Reactant or reagent)
 (sulfonium salt prepn. from, for **photo acid generator**
 ; pos. chem. amplified **resist compns.** having high
 resoln. and suppressed dependency of focus latitude on pattern d.)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); USES (Uses)
 (**surfactant**; pos. chem. amplified **resist compns.** having high resoln. and suppressed dependency of focus latitude on pattern d.)

IT INDEXING IN PROGRESS

=> D L38 ALL HITSTR 2-77

L38 ANSWER 2 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2003:241052 HCAPLUS
 DN 138:262693
 TI Positive photoresist **composition**
 IN Fujimori, Toru; Kawabe, Yasumasa
 PA Fuji Photo Film Co., Ltd., Japan
 SO Eur. Pat. Appl., 101 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1296190	A1	20030326	EP 2002-21204	20020918
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRAI	JP 2001-285180	A	20010919		
	JP 2002-563	A	20020107		
AB	A pos. resist compn. comprises the components of: (A) a compd. capable of generating an acid upon irradiation with one of an actinic ray and a radiation; (B) a resin that is insol. or slightly sol. in alkalis, but becomes alkali-sol. under an action of an acid; (C) a basic compd.; and (D) a compd. comprising at least three hydroxyl groups or at least three substituted hydroxyl groups, and comprising at least one cyclic structure. The present invention relates to a pos. resist compn. used in a process of manuf. semiconductors and which far UV light with wavelengths .ltoreq. 250 nm is used as an exposure light source or an electron beam is used as an irradiation source.				
ST	pos photoresist compn				
IT	Positive photoresists (pos. photoresist compn.)				
IT	Polysiloxanes, uses RL: TEM (Technical or engineered material use); USES (Uses) (surfactant ; pos. photoresist compn. contg.)				
IT	24979-70-2DP, VP15000, reaction product with Et vinyl ether			129674-22-2P	
	159296-87-4P	177034-73-0P	177034-75-2P	199432-82-1P	200808-68-0P

228101-60-8P 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-
adamantylmethacrylate copolymer **262617-13-0P** 288303-55-9P
288620-13-3P 288620-15-5P 289706-85-0P 325143-38-2P 326591-96-2P
364736-22-1P 372968-15-5P 391232-36-3P 398140-38-0P 398140-43-7P
398140-45-9P 398140-47-1P 398140-50-6P 398140-52-8P 398140-55-1P
398140-57-3P 398140-59-5P 398140-64-2P 398140-69-7P 398140-73-3P
398140-77-7P 398140-78-8P 398140-79-9P 398140-81-3P 398140-86-8P
398140-87-9P 398140-88-0P 398140-89-1P 398140-94-8P 398141-00-9P
398141-11-2P 398141-13-4P 398141-14-5P 405509-18-4P

430436-66-1P 430436-67-2P 430436-68-3P

430436-70-7P 430436-72-9P 430436-74-1P

430436-76-3P 430436-78-5P 430436-79-6P

430436-81-0P 430436-82-1P 430436-84-3P

430436-85-4P 430436-86-5P 430436-87-6P

430436-89-8P 430436-90-1P 430436-91-2P

430436-92-3P 430436-94-5P 430436-95-6P

430436-97-8P 430436-98-9P 430436-99-0P

430437-09-5P 430437-11-9P 430437-12-0P

430437-13-1P 430437-14-2P 430437-15-3P

430437-17-5P 430437-18-6P 430437-19-7P

430437-21-1P 430437-22-2P 430437-24-4P

431062-12-3P 431062-14-5P 431062-16-7P

431062-17-8P 503003-64-3P 503003-65-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresist compn. contg.)

IT 109-92-2DP, Ethyl vinyl ether, reaction product with polyhydroxystyrene

RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos. photoresist compn. contg.)

IT 57-55-6, Propylene glycol, uses 67-68-5, Dimethyl sulfoxide, uses
96-48-0, .gamma.-Butyrolactone 97-64-3, Ethyl lactate 107-21-1,
Ethylene glycol, uses 108-94-1, Cyclohexanone, uses 109-86-4,
Ethylene glycol monomethyl ether 110-43-0, 2-Heptanone 110-80-5,
Ethylene glycol monoethyl ether 123-86-4, Butyl ac-etate 127-19-5,
N,N-Dimethylacetamide 763-69-9 872-50-4, N-Methylpyrrolidone, uses
1320-67-8, Propylene glycol monomethyl ether 52125-53-8, Propylene
glycol monoethyl ether 84540-57-8, Propylene glycol monomethyl ether
acetate

RL: TEM (Technical or engineered material use); USES (Uses)

(solvent; pos. photoresist compn. contg.)

IT 137462-24-9, Megafac F176 216679-67-3, Megafac R08

RL: TEM (Technical or engineered material use); USES (Uses)

(surfactant; pos. photoresist compn. contg.)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Fuji Photo Film Co Ltd; EP 0788031 A 1997 HCAPLUS

(2) Fuji Photo Film Co Ltd; EP 0803775 A 1997 HCAPLUS

(3) Fuji Photo Film Co Ltd; EP 0869393 A 1998 HCAPLUS

(4) Maeda, K; US 2001026901 A1 2001 HCAPLUS

(5) Nec Corporation; WO 0001684 A 2000 HCAPLUS

IT **262617-13-0P 430436-66-1P 430436-67-2P**

430436-68-3P 430436-70-7P 430436-72-9P

430436-74-1P 430436-76-3P 430436-78-5P

430436-79-6P 430436-81-0P 430436-82-1P

430436-84-3P 430436-85-4P 430436-86-5P

430436-87-6P 430436-89-8P 430436-90-1P

430436-91-2P 430436-92-3P 430436-94-5P

430436-95-6P 430436-97-8P 430436-98-9P
430436-99-0P 430437-09-5P 430437-11-9P
430437-12-0P 430437-13-1P 430437-14-2P
430437-15-3P 430437-17-5P 430437-18-6P
430437-19-7P 430437-21-1P 430437-22-2P
430437-24-4P 431062-12-3P 431062-14-5P
431062-16-7P 431062-17-8P 503003-64-3P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)
(pos. photoresist compn. contg.)

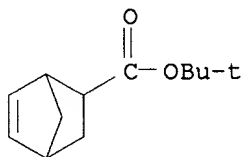
RN 262617-13-0 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with bicyclo[2.2.1]hept-2-ene and tetrafluoroethene (9CI) (CA
INDEX NAME)

CM 1

CRN 154970-45-3

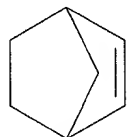
CMF C12 H18 O2



CM 2

CRN 498-66-8

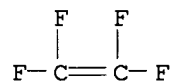
CMF C7 H10



CM 3

CRN 116-14-3

CMF C2 F4



RN 430436-66-1 HCAPLUS

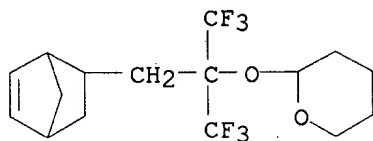
CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-

(trifluoromethyl)ethoxy]tetrahydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-65-0

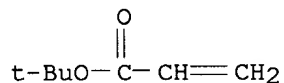
CMF C16 H20 F6 O2



CM 2

CRN 1663-39-4

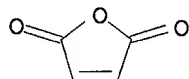
CMF C7 H12 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



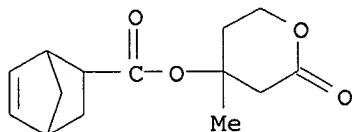
RN 430436-67-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrafluoroethene and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357400-43-2

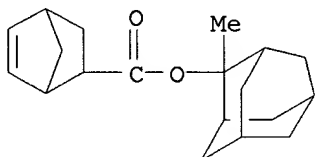
CMF C14 H18 O4



CM 2

CRN 328087-85-0

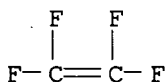
CMF C19 H26 O2



CM 3

CRN 116-14-3

CMF C2 F4



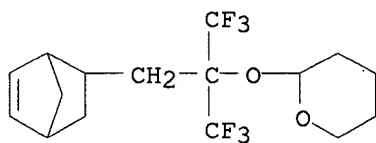
RN 430436-68-3 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-
(trifluoromethyl)ethoxy]tetrahydro-2H-pyran and tetrafluoroethene (9CI)
(CA INDEX NAME)

CM 1

CRN 430436-65-0

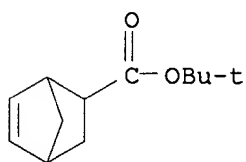
CMF C16 H20 F6 O2



CM 2

CRN 154970-45-3

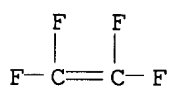
CMF C12 H18 O2



CM 3

CRN 116-14-3

CMF C2 F4



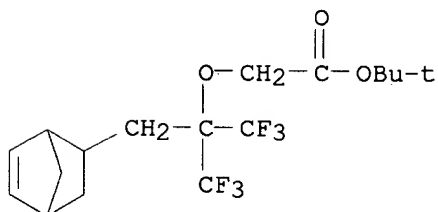
RN 430436-70-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 1,1-dimethylethyl [1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]acetate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-69-4

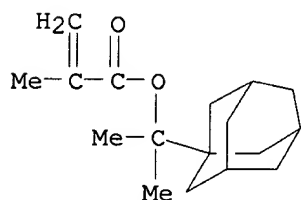
CMF C17 H22 F6 O3



CM 2

CRN 279218-76-7

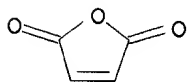
CMF C17 H26 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



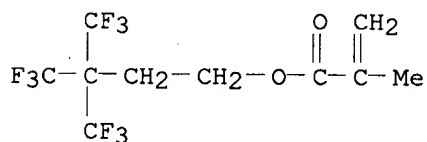
RN 430436-72-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 4,4,4-trifluoro-3,3-bis(trifluoromethyl)butyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 430436-71-8

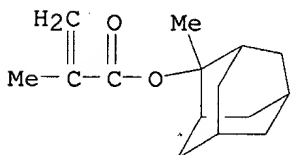
CMF C10 H9 F9 O2



CM 2

CRN 177080-67-0

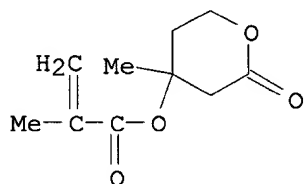
CMF C15 H22 O2



CM 3

CRN 177080-66-9

CMF C10 H14 O4



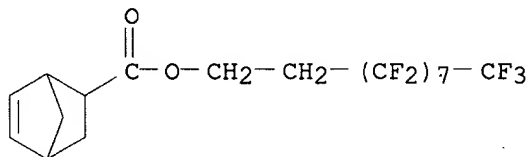
RN 430436-74-1 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with 1,1-dimethylethyl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-73-0

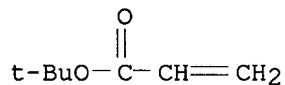
CMF C18 H13 F17 O2



CM 2

CRN 1663-39-4

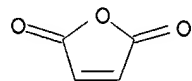
CMF C7 H12 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



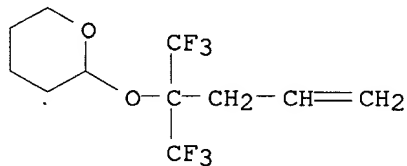
RN 430436-76-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 2-[[1,1-bis(trifluoromethyl)-3-butenyl]oxy]tetrahydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-75-2

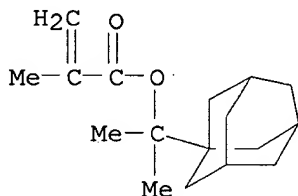
CMF C11 H14 F6 O2



CM 2

CRN 279218-76-7

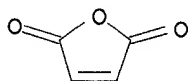
CMF C17 H26 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



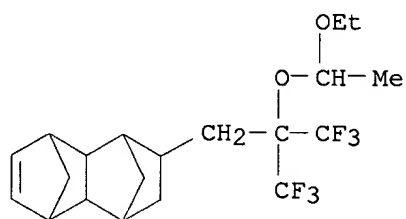
RN 430436-78-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tetrahydro-5,5-dimethyl-2-oxo-3-furanyl ester, polymer with 2-[2-(1-ethoxyethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]-1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalene and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-77-4

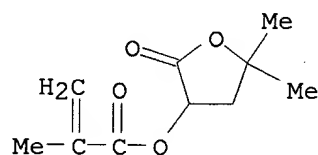
CMF C20 H26 F6 O2



CM 2

CRN 280552-09-2

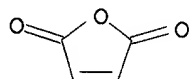
CMF C10 H14 O4



CM 3

CRN 108-31-6

CMF C4 H2 O3



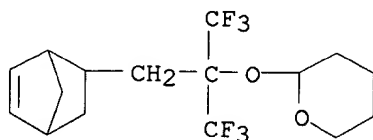
RN 430436-79-6 HCAPLUS

CN 2H-Pyran, 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-, polymer with bicyclo[2.2.1]hept-2-ene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

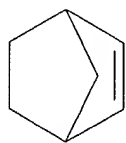
CRN 430436-65-0

CMF C16 H20 F6 O2



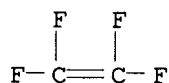
CM 2

CRN 498-66-8
CMF C7 H10



CM 3

CRN 116-14-3
CMF C2 F4

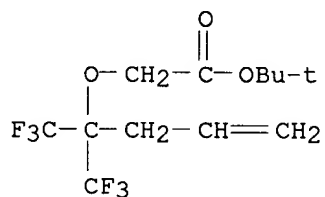


RN 430436-81-0 HCAPLUS

CN Acetic acid, [[1,1-bis(trifluoromethyl)-3-butenyl]oxy]-, 1,1-dimethylethyl ester, polymer with bicyclo[2.2.1]hept-2-ene and tetrafluoroethene (9CI)
(CA INDEX NAME)

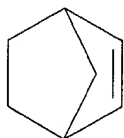
CM 1

CRN 430436-80-9
CMF C12 H16 F6 O3



CM 2

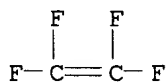
CRN 498-66-8
CMF C7 H10



CM 3

CRN 116-14-3

CMF C2 F4



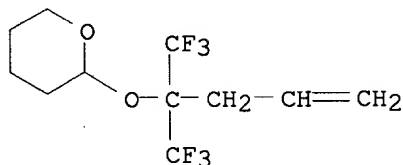
RN 430436-82-1 HCAPLUS

CN 2H-Pyran, 2-[[1,1-bis(trifluoromethyl)-3-butenyl]oxy]tetrahydro-, polymer with bicyclo[2.2.1]hept-2-ene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-75-2

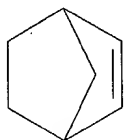
CMF C11 H14 F6 O2



CM 2

CRN 498-66-8

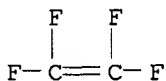
CMF C7 H10



CM 3

CRN 116-14-3

CMF C2 F4



RN 430436-84-3 HCAPLUS

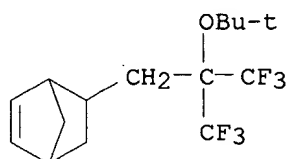
CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 5-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicycl

o[2.2.1]hept-2-ene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-83-2

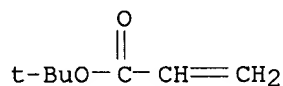
CMF C15 H20 F6 O



CM 2

CRN 1663-39-4

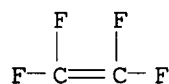
CMF C7 H12 O2



CM 3

CRN 116-14-3

CMF C2 F4



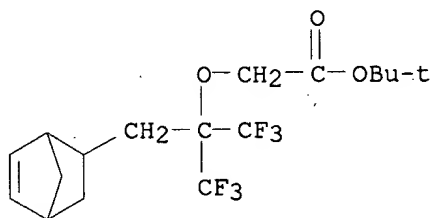
RN 430436-85-4 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 1,1-dimethylethyl [1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]acetate and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-69-4

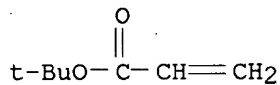
CMF C17 H22 F6 O3



CM 2

CRN 1663-39-4

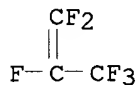
CMF C7 H12 O2



CM 3

CRN 116-15-4

CMF C3 F6



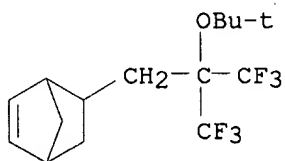
RN 430436-86-5 HCAPLUS

CN Bicyclo[2.2.1]hept-2-ene, 5-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]-, polymer with bicyclo[2.2.1]hept-2-ene and trifluoro(pentafluoroethoxy)ethene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-83-2

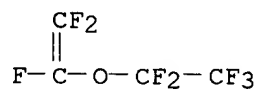
CMF C15 H20 F6 O



CM 2

CRN 10493-43-3

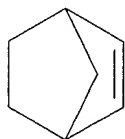
CMF C4 F8 O



CM 3

CRN 498-66-8

CMF C7 H10



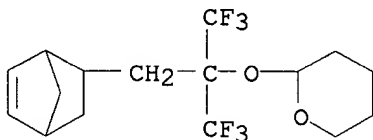
RN 430436-87-6 HCAPLUS

CN 1,3-Dioxole, 2,2,4,5-tetrafluoro-, polymer with bicyclo[2.2.1]hept-2-ene and 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran (9CI) (CA INDEX NAME)

CM 1

CRN 430436-65-0

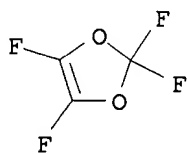
CMF C16 H20 F6 O2



CM 2

CRN 86179-30-8

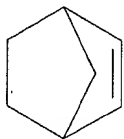
CMF C3 F4 O2



CM 3

CRN 498-66-8

CMF C7 H10



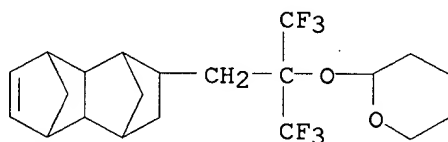
RN 430436-89-8 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
2-[1-[(1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalen-2-yl)methyl]-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran
and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-88-7

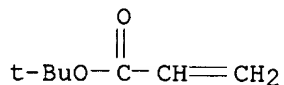
CMF C21 H26 F6 O2



CM 2

CRN 1663-39-4

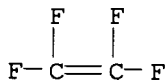
CMF C7 H12 O2



CM 3

CRN 116-14-3

CMF C2 F4



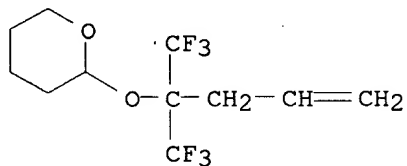
RN 430436-90-1 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2-[[1,1-bis(trifluoromethyl)-3-butenyl]oxy]tetrahydro-2H-
pyran and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-75-2

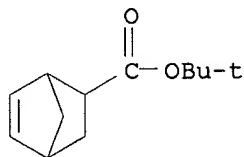
CMF C11 H14 F6 O2



CM 2

CRN 154970-45-3

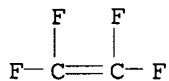
CMF C12 H18 O2



CM 3

CRN 116-14-3

CMF C2 F4



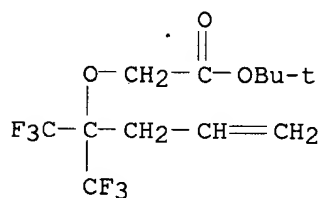
RN 430436-91-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with bicyclo[2.2.1]hept-2-ene, 1,1-dimethylethyl
[[1,1-bis(trifluoromethyl)-3-butenyl]oxy]acetate and tetrafluoroethene
(9CI) (CA INDEX NAME)

CM 1

CRN 430436-80-9

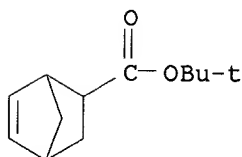
CMF C12 H16 F6 O3



CM 2

CRN 154970-45-3

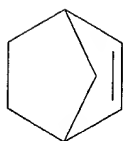
CMF C12 H18 O2



CM 3

CRN 498-66-8

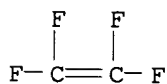
CMF C7 H10



CM 4

CRN 116-14-3

CMF C2 F4

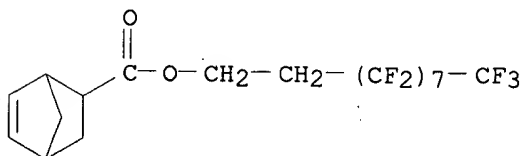


RN 430436-92-3 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran and 2,5-furandione (9CI) (CA INDEX NAME)

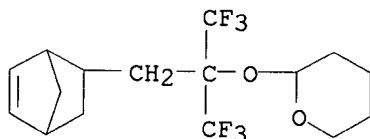
CM 1

CRN 430436-73-0
CMF C18 H13 F17 O2



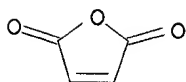
CM 2

CRN 430436-65-0
CMF C16 H20 F6 O2



CM 3

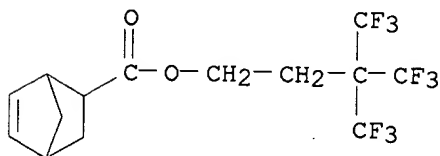
CRN 108-31-6
CMF C4 H2 O3



RN 430436-94-5 HCAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 4,4,4-trifluoro-3,3-bis(trifluoromethyl)butyl ester, polymer with 1,1-dimethylethyl [[1,1-bis(trifluoromethyl)-3-butenyl]oxy]acetate and 2,5-furandione (9CI)
(CA INDEX NAME)

CM 1

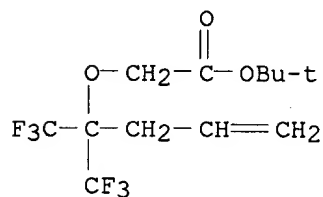
CRN 430436-93-4
CMF C14 H13 F9 O2



CM 2

CRN 430436-80-9

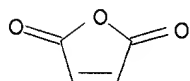
CMF C12 H16 F6 O3



CM 3

CRN 108-31-6

CMF C4 H2 O3



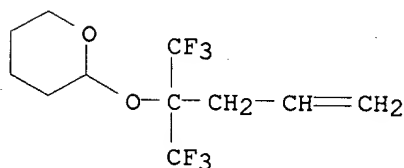
RN 430436-95-6 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 2-[[1,1-bis(trifluoromethyl)-3-butenyl]oxy]tetrahydro-2H-pyran, 1,1-dimethylethyl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-75-2

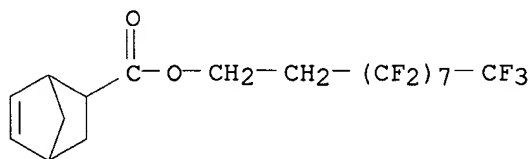
CMF C11 H14 F6 O2



CM 2

CRN 430436-73-0

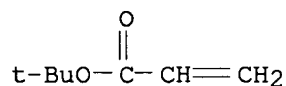
CMF C18 H13 F17 O2



CM 3

CRN 1663-39-4

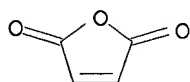
CMF C7 H12 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



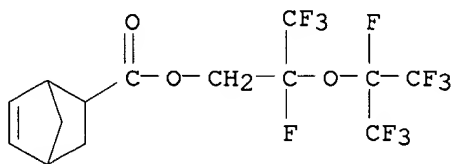
RN 430436-97-8 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2,3,3,3-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethoxy]propyl ester, polymer with 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran, 1,1-dimethylethyl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-96-7

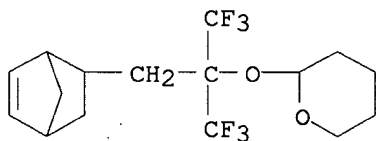
CMF C14 H11 F11 O3



CM 2

CRN 430436-65-0

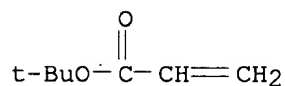
CMF C16 H20 F6 O2



CM 3

CRN 1663-39-4

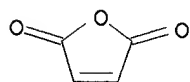
CMF C7 H12 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



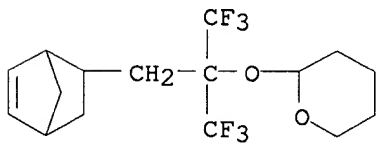
RN 430436-98-9 HCAPLUS

CN 2,5-Furandione, polymer with 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran and 5-(trifluoromethyl)bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-65-0

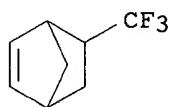
CMF C16 H20 F6 O2



CM 2

CRN 445-20-5

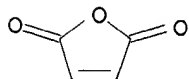
CMF C8 H9 F3



CM 3

CRN 108-31-6

CMF C4 H2 O3



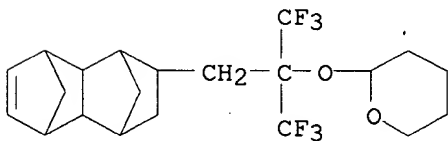
RN 430436-99-0 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 1,1-dimethylethyl 2-propenoate, 2,5-furandione and tetrahydro-2-[2,2,2-trifluoro-1-[(1,2,3,4,4a,5,8,8a-octahydro-1,4:5,8-dimethanonaphthalen-2-yl)methyl]-1-(trifluoromethyl)ethoxy]-2H-pyran (9CI) (CA INDEX NAME)

CM 1

CRN 430436-88-7

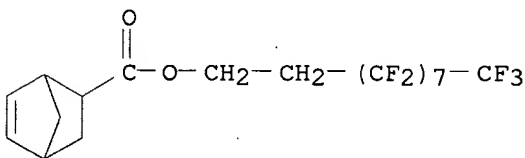
CMF C21 H26 F6 O2



CM 2

CRN 430436-73-0

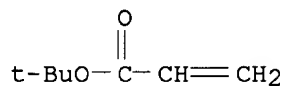
CMF C18 H13 F17 O2



CM 3

CRN 1663-39-4

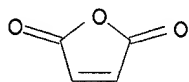
CMF C7 H12 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



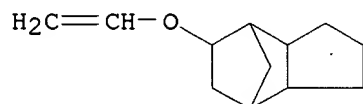
RN 430437-09-5 HCAPLUS

CN 2H-Pyran, 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-, polymer with 5-(ethenyloxy)octahydro-4,7-methano-1H-indene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430437-08-4

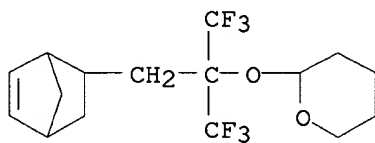
CMF C12 H18 O



CM 2

CRN 430436-65-0

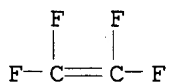
CMF C16 H20 F6 O2



CM 3

CRN 116-14-3

CMF C2 F4



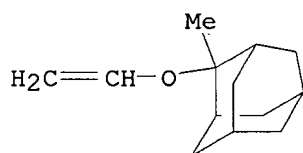
RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with .alpha.,.alpha.-bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 430437-10-8

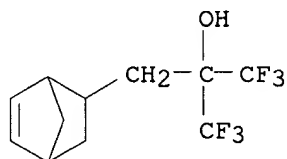
CMF C13 H20 O



CM 2

CRN 196314-61-1

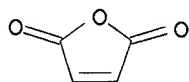
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



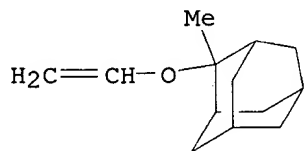
RN 430437-12-0 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430437-10-8

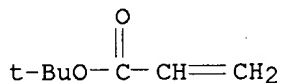
CMF C13 H20 O



CM 2

CRN 1663-39-4

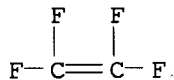
CMF C7 H12 O2



CM 3

CRN 116-14-3

CMF C2 F4



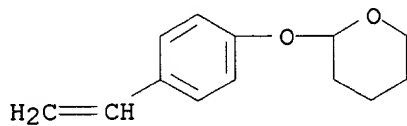
RN 430437-13-1 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 2-(4-ethenylphenoxy)tetrahydro-2H-pyran (9CI) (CA INDEX NAME)

CM 1

CRN 65409-15-6

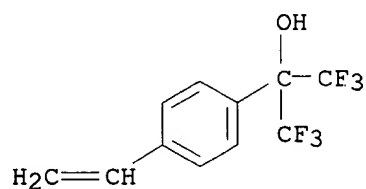
CMF C13 H16 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



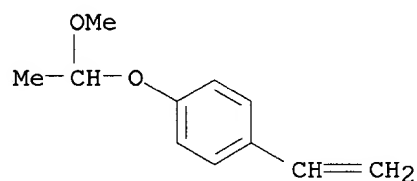
RN 430437-14-2 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-ethenyl-4-(1-methoxyethoxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 151189-10-5

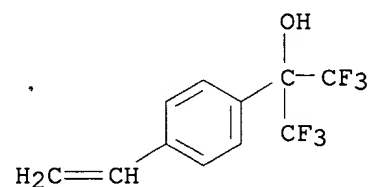
CMF C11 H14 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



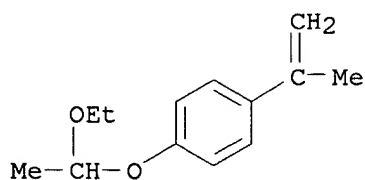
RN 430437-15-3 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1-ethoxyethoxy)-4-(1-methylethenyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 216573-39-6

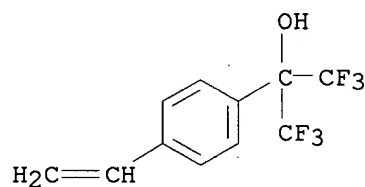
CMF C13 H18 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



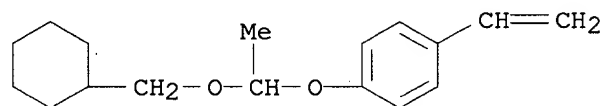
RN 430437-17-5 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-[1-(cyclohexylmethoxy)ethoxy]-4-ethenylbenzene (9CI) (CA INDEX
NAME)

CM 1

CRN 430437-16-4

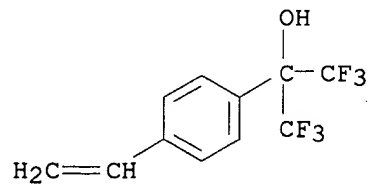
CMF C17 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



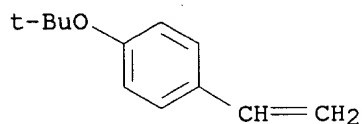
RN 430437-18-6 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

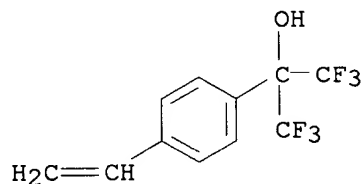
CMF C12 H16 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



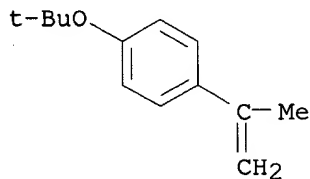
RN 430437-19-7 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-(1-methylethenyl)benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 105612-78-0

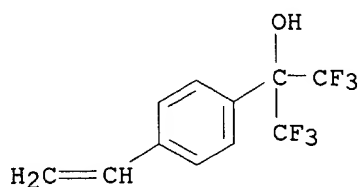
CMF C13 H18 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



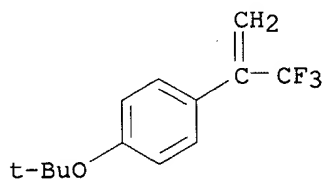
RN 430437-21-1 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-[1-(trifluoromethyl)ethenyl]benzene (9CI)
(CA INDEX NAME)

CM 1

CRN 430437-20-0

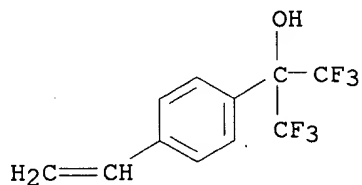
CMF C13 H15 F3 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



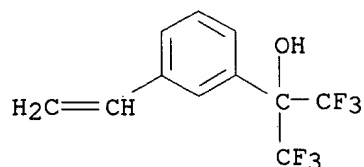
RN 430437-22-2 HCAPLUS

CN Benzenemethanol, 3-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 122056-08-0

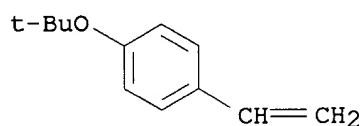
CMF C11 H8 F6 O



CM 2

CRN 95418-58-9

CMF C12 H16 O



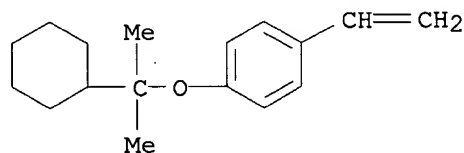
RN 430437-24-4 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.-methyl-.alpha.-(trifluoromethyl)-,
polymer with 1-(1-cyclohexyl-1-methylethoxy)-4-ethenylbenzene (9CI) (CA
INDEX NAME)

CM 1

CRN 430437-23-3

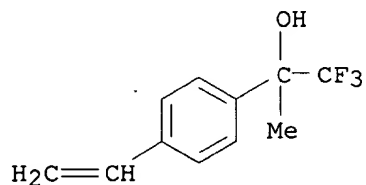
CMF C17 H24 O



CM 2

CRN 397287-76-2

CMF C11 H11 F3 O



RN 431062-12-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,

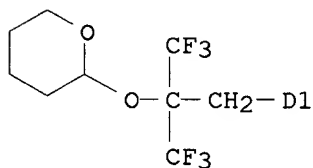
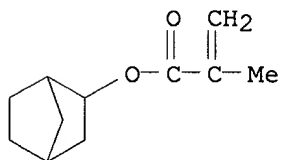
polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate
and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-
(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 431062-13-4

CMF C20 H26 F6 O4

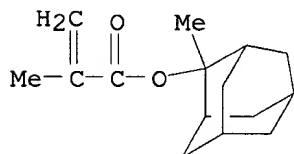
CCI IDS



CM 2

CRN 177080-67-0

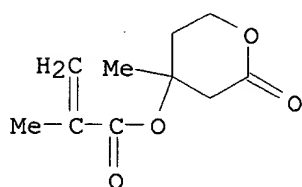
CMF C15 H22 O2



CM 3

CRN 177080-66-9

CMF C10 H14 O4



RN 431062-14-5 HCAPLUS

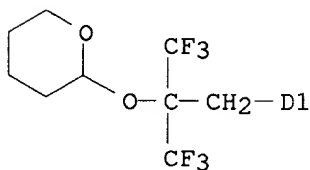
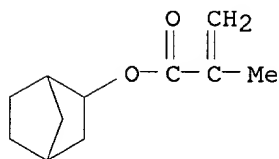
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 431062-13-4

CMF C20 H26 F6 O4

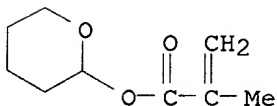
CCI IDS



CM 2

CRN 52858-59-0

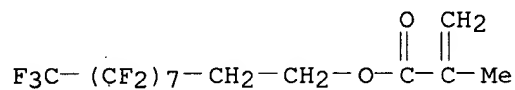
CMF C9 H14 O3



CM 3

CRN 1996-88-9

CMF C14 H9 F17 O2



RN 431062-16-7 HCAPLUS

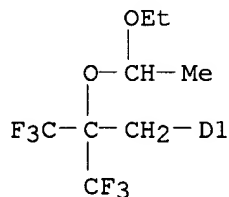
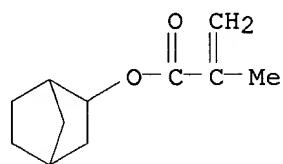
CN 2-Propenoic acid, 2-methyl-, 5(or 6)-[2-(1-ethoxyethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl ester polymer with 1-ethenyl-4-[1-(1-ethoxyethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]benzene and 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 431062-15-6

CMF C19 H26 F6 O4

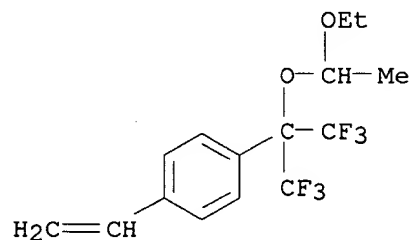
CCI IDS



CM 2

CRN 430437-00-6

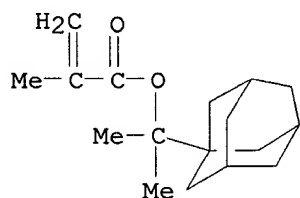
CMF C15 H16 F6 O2



CM 3

CRN 279218-76-7

CMF C17 H26 O2



RN 431062-17-8 HCAPLUS

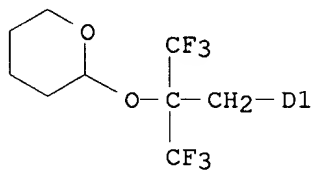
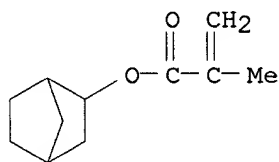
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with 2-methyltricyclo[3.3.1.1.3,7]dec-2-yl 2-methyl-2-propenoate, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI). (CA INDEX NAME)

CM 1

CRN 431062-13-4

CMF C20 H26 F6 O4

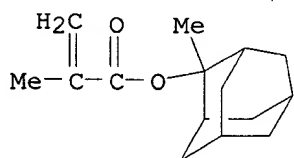
CCI IDS



CM 2

CRN 177080-67-0

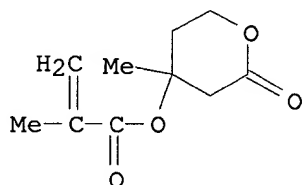
CMF C15 H22 O2



CM 3

CRN 177080-66-9

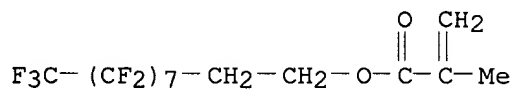
CMF C10 H14 O4



CM 4

CRN 1996-88-9

CMF C14 H9 F17 O2



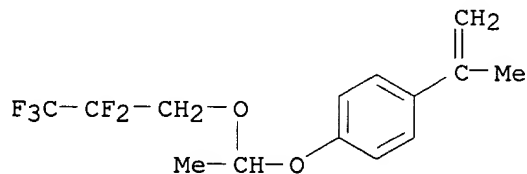
RN 503003-64-3 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1-methylethenyl)-4-[1-(2,2,3,3,3-pentafluoropropoxy)ethoxy]benzene
(9CI) (CA INDEX NAME)

CM 1

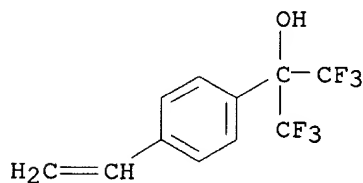
CRN 503003-63-2

CMF C14 H15 F5 O2



CM 2

CRN 2386-82-5
CMF C11 H8 F6 O



L38 ANSWER 3 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2003:20985 HCAPLUS
DN 138:98193
TI Positive resist **composition**
IN Mizutani, Kazuyoshi; Kanna, Shinichi
PA Fuji Photo Film Co., Ltd., Japan
SO Eur. Pat. Appl., 93 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G03F007-004
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)
Section cross-reference(s): 35, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1273969	A2	20030108	EP 2002-14079	20020701
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2003015297	A2	20030115	JP 2001-202240	20010703
	JP 2003015299	A2	20030115	JP 2001-202242	20010703
	JP 2003015300	A2	20030115	JP 2001-202243	20010703
PRAI	JP 2001-202240	A	20010703		
	JP 2001-202242	A	20010703		
	JP 2001-202243	A	20010703		
AB	A pos. resist compn. comprises (A) a resin which comprises a specified repeating units and (B) a compd. capable of generating an acid upon irradiation with one of an actinic ray and a radiation. The present invention relates to a pos. resist compn. capable of forming fine patterns with use of a vacuum UV ray having a wavelength .ltoreq. 160 nm.				
ST	pos photoresist resin compn photolithog				
IT	Positive photoresists (pos. resist compn. for vacuum UV photolithog.)				
IT	Polysiloxanes, uses RL: TEM (Technical or engineered material use); USES (Uses) (surfactant ; pos. resist compn. for vacuum UV photolithog. contg.)				
IT	Photolithography (vacuum UV; pos. resist compn. for vacuum UV)				
IT	430437-22-2P 430437-35-7P 479073-24-0P 483348-64-7P 483348-65-8P 483348-66-9P				

483348-67-0P 483348-68-1P 483348-69-2P
483348-70-5P 483348-71-6P 483348-72-7P
483348-73-8P 483348-74-9P 483348-75-0P
483348-76-1P 483348-78-3P 483348-80-7P
483348-81-8P 483348-83-0P 483348-85-2P 483348-86-3P
483348-88-5P 483348-90-9P 483348-91-0P
483348-92-1P 483348-93-2P 483348-94-3P
483348-96-5P 483348-97-6P 483348-98-7P
483348-99-8P 483349-01-5P 483349-02-6P
483349-04-8P 483349-06-0P 483349-08-2P
483349-10-6P 483349-11-7P 483349-12-8P
483349-13-9P 483349-15-1P 483349-16-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **resist compn.** for vacuum UV photolithog. contg.)

IT 9016-45-9, Polyoxyethylene nonyl phenyl ether 137462-24-9, Megafac F 176
216679-67-3, Megafac R 08

RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; pos. **resist compn.** for vacuum UV photolithog. contg.)

IT 430437-22-2P 479073-24-0P 483348-64-7P
483348-65-8P 483348-66-9P 483348-67-0P
483348-68-1P 483348-69-2P 483348-70-5P
483348-72-7P 483348-73-8P 483348-74-9P
483348-75-0P 483348-76-1P 483348-78-3P
483348-80-7P 483348-81-8P 483348-88-5P
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483349-08-2P 483349-10-6P 483349-11-7P
483349-12-8P 483349-13-9P 483349-15-1P
483349-16-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **resist compn.** for vacuum UV photolithog. contg.)

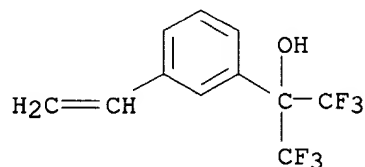
RN 430437-22-2 HCAPLUS

CN Benzenemethanol, 3-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 122056-08-0

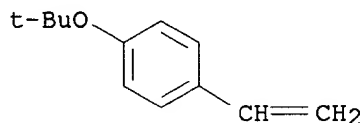
CMF C11 H8 F6 O



CM 2

CRN 95418-58-9

CMF C12 H16 O



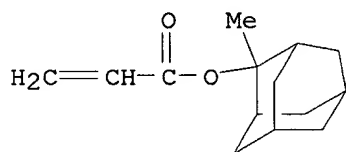
RN 479073-24-0 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

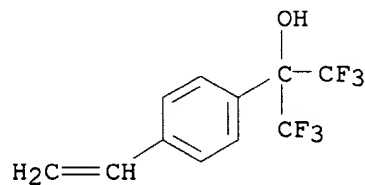
CMF C14 H20 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



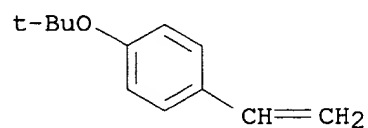
RN 483348-64-7 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

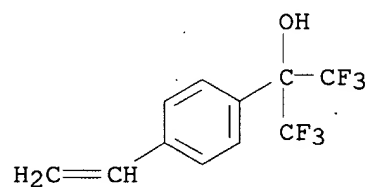
CMF C12 H16 O



CM 2

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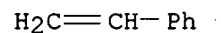
CMF C11 H8 F6 O



CM 3

CRN 100-42-5

CMF C8 H8



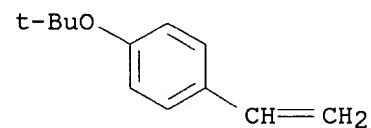
RN 483348-65-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, cyclohexyl ester, polymer with
1-(1,1-dimethylethoxy)-4-ethenylbenzene and 4-ethenyl-.alpha.,.alpha.-
bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

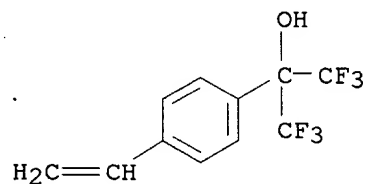
CMF C12 H16 O



CM 2

CRN 2386-82-5

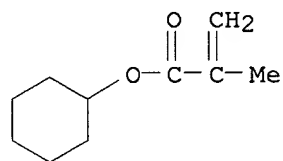
CMF C11 H8 F6 O



CM 3

CRN 101-43-9

CMF C10 H16 O2



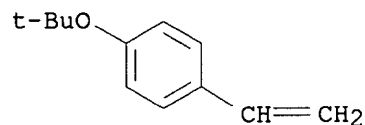
RN 483348-66-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, tricyclo[3.3.1.1^{3,7}]dec-1-yl ester, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

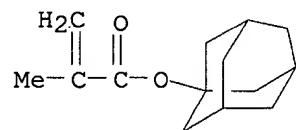
CMF C12 H16 O



CM 2

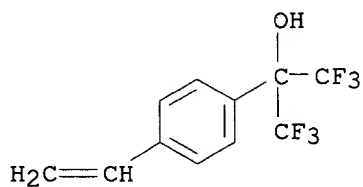
CRN 16887-36-8

CMF C14 H20 O2



CM 3

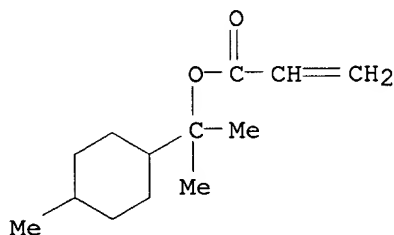
CRN 2386-82-5
CMF C11 H8 F6 O



RN 483348-67-0 HCAPLUS
CN 2-Propenoic acid, 1-methyl-1-(4-methylcyclohexyl)ethyl ester, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and 4-ethenylphenyl acetate (9CI) (CA INDEX NAME)

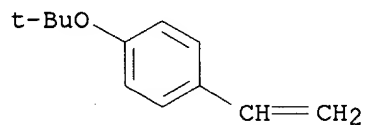
CM 1

CRN 342648-11-7
CMF C13 H22 O2



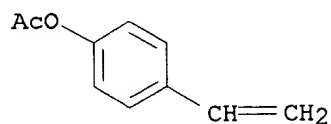
CM 2

CRN 95418-58-9
CMF C12 H16 O



CM 3

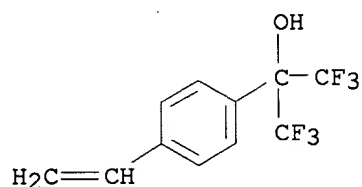
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CMF C10 H10 O2



CM 4

CRN 2386-82-5

CMF C11 H8 F6 O



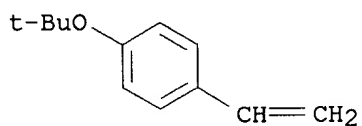
RN 483348-68-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
1-(1,1-dimethylethoxy)-4-ethenylbenzene, 4-ethenyl-.alpha.,.alpha.-
bis(trifluoromethyl)benzenemethanol and phenyl 2-methyl-2-propenoate (9CI)
(CA INDEX NAME)

CM 1

CRN 95418-58-9

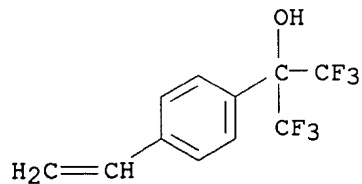
CMF C12 H16 O



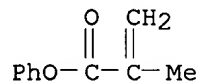
CM 2

CRN 2386-82-5

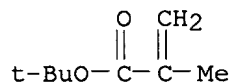
CMF C11 H8 F6 O



CM 3

CRN 2177-70-0
CMF C10 H10 O2

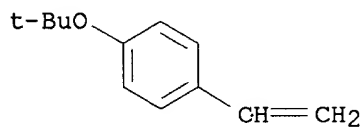
CM 4

CRN 585-07-9
CMF C8 H14 O2

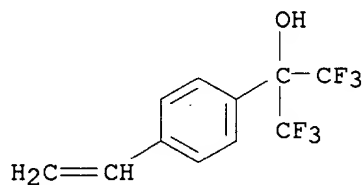
RN 483348-69-2 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 1-ethenylnaphthalene
(9CI) (CA INDEX NAME)

CM 1

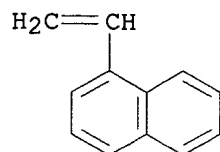
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CMF C12 H16 O

CM 2

CRN 2386-82-5
CMF C11 H8 F6 O

CM 3

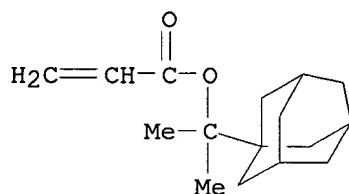
CRN 826-74-4
CMF C12 H10



RN 483348-70-5 HCAPLUS
CN 2-Propenoic acid, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester,
polymer with 1-(1,1-dimethylethyl)-4-ethenylbenzene and
4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA
INDEX NAME)

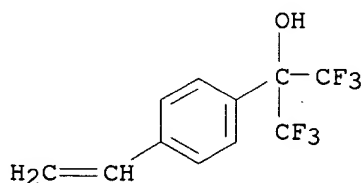
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CRN 300833-10-7
CMF C16 H24 O2



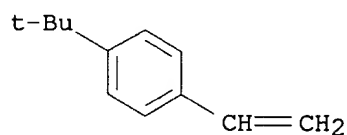
CM 2

CRN 2386-82-5
CMF C11 H8 F6 O



CM 3

CRN 1746-23-2
CMF C12 H16



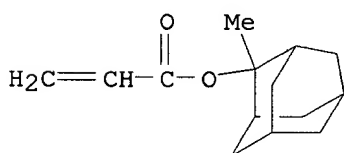
RN 483348-72-7 HCAPLUS

CN 2-Propenoic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and (1-methylethenyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

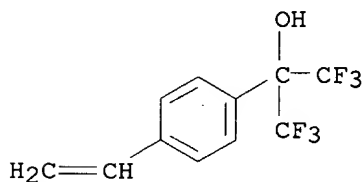
CMF C14 H20 O2



CM 2

CRN 2386-82-5

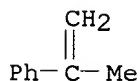
CMF C11 H8 F6 O



CM 3

CRN 98-83-9

CMF C9 H10



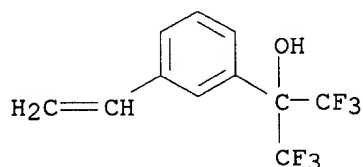
RN 483348-73-8 HCAPLUS

CN Benzenemethanol, 3-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 122056-08-0

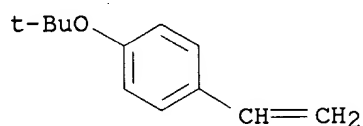
CMF C11 H8 F6 O



CM 2

CRN 95418-58-9

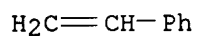
CMF C12 H16 O



CM 3

CRN 100-42-5

CMF C8 H8



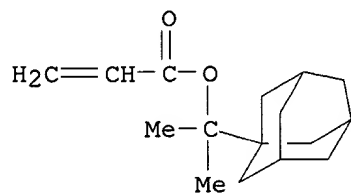
RN 483348-74-9 HCAPLUS

CN 2-Propenoic acid, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 300833-10-7

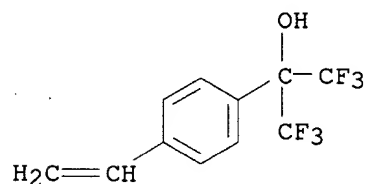
CMF C16 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



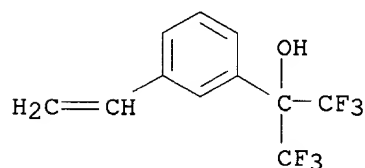
RN 483348-75-0 HCAPLUS

CN Benzenemethanol, 3-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and ethenylpentafluorobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 122056-08-0

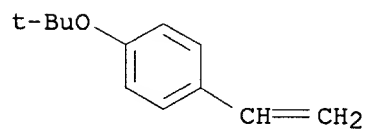
CMF C11 H8 F6 O



CM 2

CRN 95418-58-9

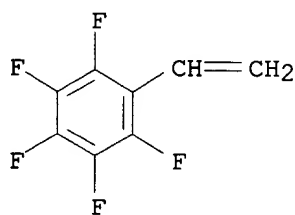
CMF C12 H16 O



CM 3

CRN 653-34-9

CMF C8 H8 F5



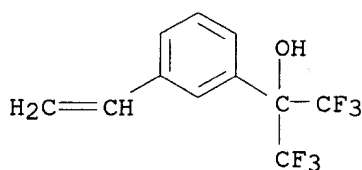
RN 483348-76-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,2-trifluoroethyl ester, polymer with
1-(1,1-dimethylethoxy)-4-ethenylbenzene and 3-ethenyl-.alpha.,.alpha.-
bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 122056-08-0

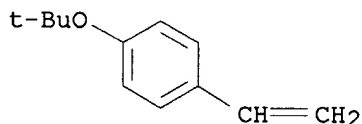
CMF C11 H8 F6 O



CM 2

CRN 95418-58-9

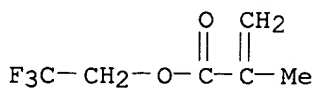
CMF C12 H16 O



CM 3

CRN 352-87-4

CMF C6 H7 F3 O2



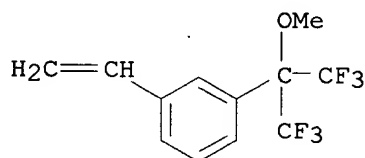
RN 483348-78-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylpropyl ester, polymer with
3-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and

1-ethenyl-3-[2,2,2-trifluoro-1-methoxy-1-(trifluoromethyl)ethyl]benzene
(9CI) (CA INDEX NAME)

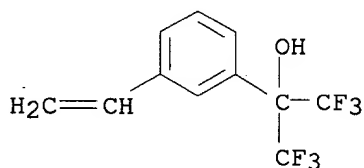
CM 1

CRN 483348-77-2
CMF C12 H10 F6 O



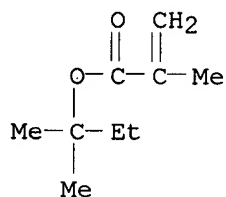
CM 2

CRN 122056-08-0
CMF C11 H8 F6 O



CM 3

CRN 7383-24-6
CMF C9 H16 O2

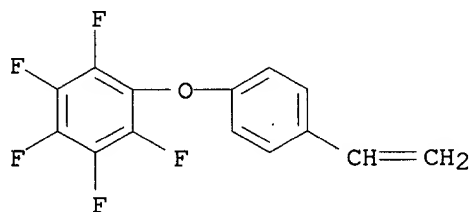


RN 483348-80-7 HCAPLUS

CN 2-Propenoic acid, 1-methyl-1-(4-methylcyclohexyl)ethyl ester, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and (4-ethenylphenoxy)pentafluorobenzene (9CI) (CA INDEX NAME)

CM 1

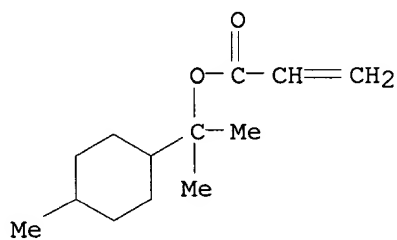
CRN 483348-79-4
CMF C14 H7 F5 O



CM 2

CRN 342648-11-7

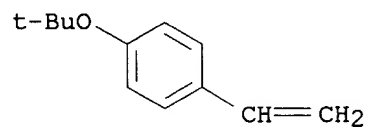
CMF C13 H22 O2



CM 3

CRN 95418-58-9

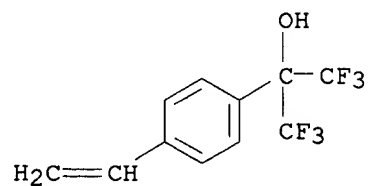
CMF C12 H16 O



CM 4

CRN 2386-82-5

CMF C11 H8 F6 O



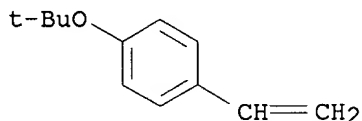
RN 483348-81-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
 1-(1,1-dimethylethoxy)-4-ethenylbenzene, 4-ethenyl-.alpha.,.alpha.-
 bis(trifluoromethyl)benzenemethanol and 3,3,4,4,5,5,6,6,6-nonafluorohexyl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

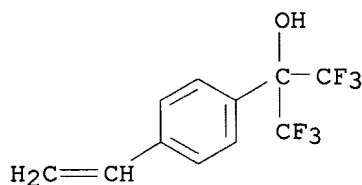
CMF C12 H16 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



CM 3

CRN 1799or polyalicyclic hydrocarbyl structure
 and being decomposable by acid to become dissolvable in alkali developing
 soln., and (C) an arom. carboxylic acid with protective group. Thus,
 adding over 4 h a soln. of 2-methyl-2-adamantyl methacrylate 5.0,
 mevalonic lactone methacrylate 4.23, V-65 (azo radical initiator) 0.534
 and AcNMe2 30.0 to AcNMe2 7.0 g heated at 60.degree., reacting for 2 h,
 further adding 0.267 V-650, reacting for 2 h and working up gave a
 copolymer with Mw 5500 and Mw/Mn 1.9. Mixing 9.0 parts the copolymer with
 triphenylsulfonium triflate 0.1, tetrahydro-2-pyranyl benzoate 1.0,
 1,5-diazabicyclo[4.3.0]-5-nonene 0.005 and Megafac F 176 (
surfactant) 0.01 parts, dilg. in propylene glycol monomethyl ether
 acetate to a solids content of 15%, filtering, spin coating on a
 silane-primed Si wafer, and drying at 120.degree. for 90 s gave a
photoresist layer which was then patterned using a photomask and
 ArF excimer laser stepper and developed with tetramethylammonium hydroxide
 to give patterns with good resolu.

ST resolu sensitivity pos working **photoresist** acid
generator crosslinking catalyst

IT Crosslinking catalysts
 (acid-**generating** compds.; pos.-working **photoresists**
 with high sensitivity and good resolu. on development)

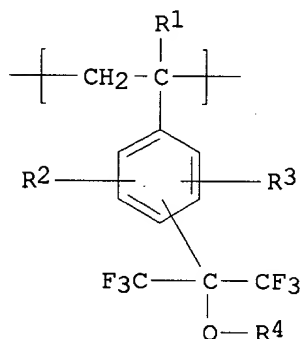
- IT Acids, uses
 RL: CAT (Catalyst use); USES (Uses)
 (crosslinking catalysts; pos.-working **photoresists** with high sensitivity and good resolu. on development)
- IT Positive **photoresists**
 Printed circuit boards
Surfactants
 (pos.-working **photoresists** with high sensitivity and good resolu. on development)
- IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (pos.-working **photoresists** with high sensitivity and good resolu. on development)
- IT 66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium perfluorooctanesulfonate 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate
 RL: CAT (Catalyst use); USES (Uses)
 (acid-generating agent; pos.-working **photoresists** with high sensitivity and good resolu. on development)
- IT 177080-68-1P, 2-Methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 195000-67-0P 195154-83-7P 216308-45-1P, Methacrylic acid-2-methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 288303-55-9P 297156-40-2P 304441-22-3P 307976-24-5P 324770-96-9P 357413-69-5P 357413-70-8P 357413-71-9P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (pos.-working **photoresists** with high sensitivity and good resolu. on development)
- IT 484-47-9, 2,4,5-Triphenylimidazole 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2, 1,8-Diazabicyclo[5.4.0]undecene-7 16537-09-0 33155-60-1 33155-61-2 62381-17-3 70363-80-3 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08 364039-09-8, Troysol S 336 410537-59-6 457930-94-8
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (pos.-working **photoresists** with high sensitivity and good resolu. on development)
- IT 75-65-0, tert-Butanol, reactions 104-01-8, p-Methoxyphenylacetic acid 110-87-2
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reactant for benzoic acid derivs.; pos.-working **photoresists** with high sensitivity and good resolu. on development)
- L38 ANSWER 13 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2002:734053 HCAPLUS
 DN 137:270514
 TI Positive resist **composition** containing resin and photoacid generator
 IN Aoi, Toshiaki; Mizutani, Kazuyoshi; Kanna, Shinichi
 PA Fuji Photo Film Co., Ltd., Japan
 SO Eur. Pat. Appl., 51 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM G03F007-004
 ICS G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 35, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1243968	A2	20020925	EP 2002-6528	20020319
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2002351081	A2	20021204	JP 2002-74337	20020318
	US 2002168584	A1	20021114	US 2002-99981	20020319
PRAI	JP 2001-79184	A	20010319		
GI					



I

AB The present invention relates to a pos. resist **compn.** used in micro-lithog processes for the manuf. of VLSI's and micro-tips with large capacities. The present invention relates to a pos. resist **compn.** capable of forming fine patterns with use of a vacuum UV ray having a wavelength of < 160 nm. A pos. resist **compn.** comprises: (A) a resin contg. a specified repeating unit I (R1 = H, halogen atom, cyano group, alkyl; R2,3 = H, hydroxy group, halogen atom, cyano, alkoxy, acyl, alkyl, cycloalkyl, alkenyl, aralkyl, aryl; R4 = H, alkyl, perfluoroalkyl, cycloalkyl, acyl, alkoxyacrbonyl, etc.), which is capable of decomp. by the action of an acid to increase the soly. in an alkali developer; and (B) a compd. capable of generating an acid upon irradiation with one of an actinic ray and a radiation.

ST photoresist photolithog resin **surfactant**

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(KR 341, **surfactant**; resin and acid generator for pos. resist **compn.**)

IT Positive **photoresists**

(resin and acid generator for pos. resist **compn.**)

IT Photolithography

(vacuum UV; resin and acid generator for pos. resist **compn.** for)

IT 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 324771-13-3

RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; resin and acid generator for pos. resist **compn.**)

IT 430437-07-3P 462109-80-4DP, reaction products with Et vinyl ether
 462109-81-5P 462109-83-7P **462109-85-9P** 462109-87-1P
 462109-89-3P 462109-91-7P **462109-92-8P** **462109-94-0P**
 462109-95-1P **462109-97-3P**
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (resin and acid generator for pos. **resist compn.**)

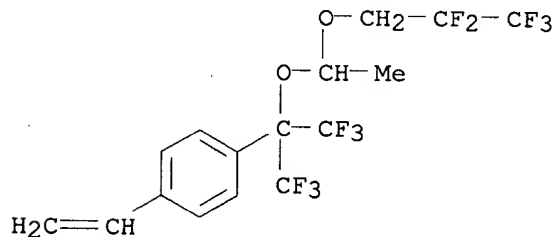
IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac f176
 216679-67-3, Megafac R08
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**surfactant**; resin and acid generator for pos. resist
compn.)

IT **462109-85-9P** **462109-92-8P** **462109-94-0P**
462109-97-3P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (resin and acid generator for pos. **resist compn.**)

RN 462109-85-9 HCAPLUS
 CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
 with 1-ethenyl-4-[2,2,2-trifluoro-1-[1-(2,2,3,3,3-
 pentafluoropropoxy)ethoxy]-1-(trifluoromethyl)ethyl]benzene (9CI) (CA
 INDEX NAME)

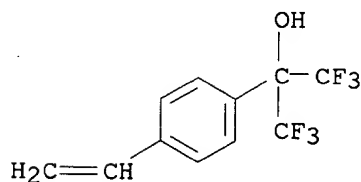
CM 1

CRN 462109-84-8
 CMF C16 H13 F11 O2



CM 2

CRN 2386-82-5
 CMF C11 H8 F6 O



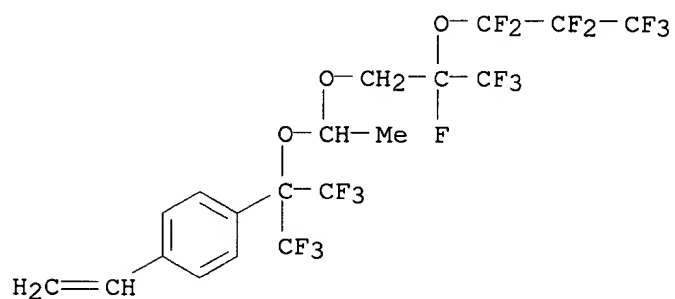
RN 462109-92-8 HCAPLUS
 CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer

with 1-ethenyl-4-[2,2,2-trifluoro-1-[1-[2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propoxy]ethoxy]-1-(trifluoromethyl)ethyl]benzene (9CI)
(CA INDEX NAME)

CM 1

CRN 462109-86-0

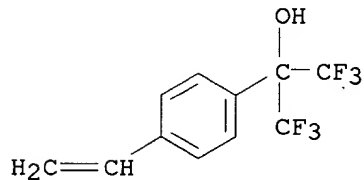
CMF C19 H13 F17 O3



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



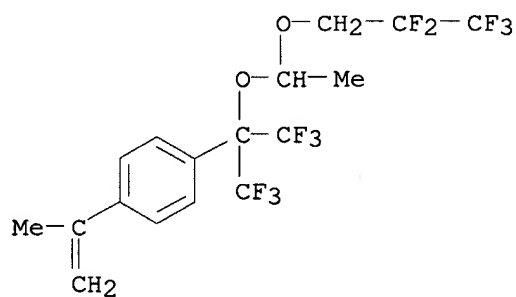
RN 462109-94-0 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 1-(1-methylethenyl)-4-[2,2,2-trifluoro-1-[1-(2,2,3,3,3-pentafluoropropoxy)ethoxy]-1-(trifluoromethyl)ethyl]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 462109-93-9

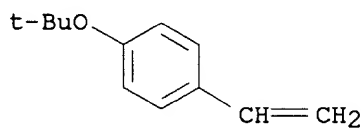
CMF C17 H15 F11 O2



CM 2

CRN 95418-58-9

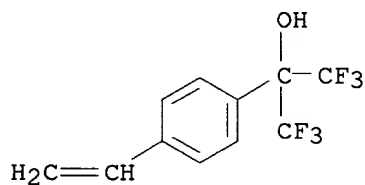
CMF C12 H16 O



CM 3

CRN 2386-82-5

CMF C11 H8 F6 O



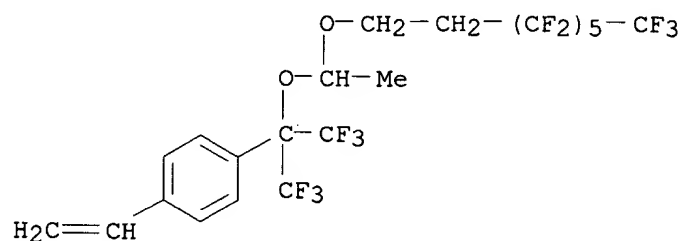
RN 462109-97-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and 1-ethenyl-4-[2,2,2-trifluoro-1-[1-[(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)oxy]ethoxy]-1-(trifluoromethyl)ethyl]benzene (9CI) (CA INDEX NAME)

CM 1

CRN 462109-96-2

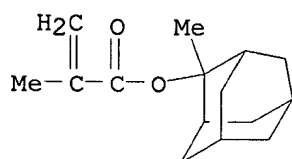
CMF C21 H15 F19 O2



CM 2

CRN 177080-67-0

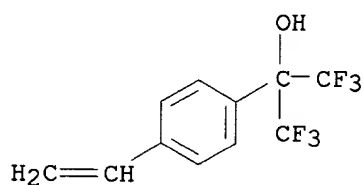
CMF C15 H22 O2



CM 3

CRN 2386-82-5

CMF C11 H8 F6 O



L38 ANSWER 14 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2002:673047 HCAPLUS
 DN 137:224108
 TI Storage-stable excimer laser-sensitive positive-working photosensitive
compositions with reduced pattern variation on defocusing
 IN Kodama, Kunihiko; Sato, Kenichiro
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 86 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-039
 ICS C08K005-00; C08K005-36; C08L101-00; G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and

Other Reprographic Processes)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002251012	A2	20020906	JP 2001-48784	20010223
	US 2003017415	A1	20030123	US 2002-79414	20020222
PRAI	JP 2001-48602	A	20010223		
	JP 2001-48783	A	20010223		
	JP 2001-48784	A	20010223		
	JP 2001-48880	A	20010223		
	JP 2001-157366	A	20010525		
	JP 2001-157367	A	20010525		
AB	The comps. comprise (A) photoacid generators , (B) resins contg. alicyclic hydrocarbon structures, which increase their alkali soly. by acid decompn., (C) base compds., and (D) fluoro- and/or silicone-based surfactants, wherein the photoacid generator is a mixt. of triarylsulfonium salts and non-arom. sulfonium salts. The comps. are useful for chem. amplified photoresists suitable for halftone phase-shift masks.				
ST	pos photoresist excimer laser storage stability; chem amplification photoresist arylsulfonium photoacid generator				
IT	Positive photoresists (UV; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	Sulfonium compounds RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses) (arene, photoacid generators ; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	Surfactants (fluorosurfactants ; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	Cycloalkenes RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polymers; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	Aromatic compounds RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses) (sulfonium, photoacid generators ; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	Polysiloxanes, uses RL: TEM (Technical or engineered material use); USES (Uses) (surfactant ; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	66003-78-9	144317-44-2	177034-80-9	258872-05-8	284474-28-8
	338445-24-2	391232-40-9	398141-18-9	421555-72-8	
	RL: CAT (Catalyst use); USES (Uses) (arom. sulfonyl photoacid generator ; chem. amplified storage-stable excimer laser-sensitive pos. photoresists with reduced pattern variation on defocusing)				
IT	484-47-9, 2,4,5-Triphenylimidazole	621-77-2, Tripentylamine	3001-72-7,		

1,5-Diazabicyclo[4.3.0]non-5-ene 3040-44-6, 1-Piperidineethanol
19293-63-1, Dicyclohexylmethylamine 19600-49-8, Triphenylsulfonium
acetate

RL: TEM (Technical or engineered material use); USES (Uses)
(base compd.; chem. amplified storage-stable excimer laser-sensitive
pos. **photoresists** with reduced pattern variation on
defocusing)

IT 3744-08-9P, Triphenylsulfonium iodide 303177-16-4P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)

(chem. amplified storage-stable excimer laser-sensitive pos.
photoresists with reduced pattern variation on defocusing)

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate
copolymer 288303-55-9P 364736-22-1P 391232-36-3P 391613-77-7P

398140-36-8P 398140-38-0P 398140-40-4P 398140-43-7P 398140-45-9P

398140-50-6P 398140-52-8P 398140-54-0P 398140-55-1P 398140-57-3P

398140-59-5P 398140-60-8P 398140-62-0P 398140-64-2P 398140-65-3P

398140-68-6P 398140-69-7P 398140-71-1P 398140-72-2P 398140-73-3P

398140-74-4P 398140-75-5P 398140-76-6P 398140-77-7P 398140-78-8P

398140-79-9P 398140-80-2P 398140-81-3P 398140-82-4P 398140-84-6P

398140-85-7P 398140-86-8P 398140-87-9P 398140-88-0P, tert-Butyl

norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl

acrylate-norbornenelactone acrylate copolymer 398140-89-1P

398140-90-4P 398140-91-5P 398140-92-6P 398140-93-7P 398140-94-8P

398140-95-9P 398140-97-1P 398140-98-2P 398140-99-3P 398141-00-9P

398141-03-2P 398141-04-3P 398141-06-5P 398141-07-6P 398141-08-7P

398141-10-1P 398141-11-2P 398141-13-4P 398141-14-5P 398141-16-7P

398152-52-8P 405509-18-4P 405509-29-7P 405509-30-0P 455521-67-2P

455521-72-9P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(chem. amplified storage-stable excimer laser-sensitive pos.
photoresists with reduced pattern variation on defocusing)

IT 71-43-2, Benzene, reactions 110-01-0, Tetrahydrothiophene 945-51-7,

Diphenylsulfoxide 1763-23-1, Perfluorooctanesulfonic acid 5469-26-1,

1-Bromo-3,3-dimethyl-2-butanone 12027-06-4, Ammonium iodide

29420-49-3, Potassium perfluorobutanesulfonate 218151-20-3 455947-79-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(chem. amplified storage-stable excimer laser-sensitive pos.

photoresists with reduced pattern variation on defocusing)

IT 160481-39-0 301153-78-6 371921-65-2 383367-32-6 393171-41-0

455521-76-3 455521-81-0 455521-85-4 455521-89-8

RL: CAT (Catalyst use); USES (Uses)

(non-arom. sulfonyl **photoacid generator**; chem.
amplified storage-stable excimer laser-sensitive pos.

photoresists with reduced pattern variation on defocusing)

IT 171292-12-9

RL: CAT (Catalyst use); USES (Uses)

(**photoacid generator**; chem. amplified
storage-stable excimer laser-sensitive pos. **photoresists** with
reduced pattern variation on defocusing)

IT 144089-15-6P 241806-75-7P 347193-29-7P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation);
USES (Uses)

(**photoacid generator**; chem. amplified
storage-stable excimer laser-sensitive pos. **photoresists** with
reduced pattern variation on defocusing)

IT 96-48-0, .gamma.-Butyrolactone 97-64-3, Ethyl lactate 108-94-1,

Cyclohexanone, uses 110-43-0, 2-Heptanone 763-69-9 1320-67-8,
Propylene glycol methyl ether 84540-57-8, Propylene glycol methyl ether
acetate

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; chem. amplified storage-stable excimer laser-sensitive pos.
photoresists with reduced pattern variation on defocusing)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; chem. amplified storage-stable excimer
laser-sensitive pos. **photoresists** with reduced pattern
variation on defocusing)

L38 ANSWER 15 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:553401 HCAPLUS

DN 137:132096

TI Positive-working **photoresist composition** containing
alkylene glycol alkyl ether

IN Fujimori, Toru; Nakao, Hajime

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS C08K005-00; C08K005-06; C08K005-16; C08K005-541; C08L101-14;
G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002207289	A2	20020726	JP 2001-2860	20010110
PRAI	JP 2001-2860		20010110		

OS MARPAT 137:132096

AB The **compn.** contains (A) a compd. generating an acid by actinic
ray or radiation, (B) a resin with mono- or poly-cyclic aliph. hydrocarbon
structure and its soly. to alk. developer increases by the action of an
acid, and (C) R1(OX)mOR2 (R1-2 = linear, branched, or cyclic alkyl; X =
linear, branched, or cyclic alkylene; m, l = 1-9). The **compn.**
contains (A), (C), (D) dissoln. inhibitor with mol. wt. .ltoreq.3000
having acid-decomposable group and whose soly. to an alk. developer
increases by the action of an acid., and (E) a resin insol. in water and
sol. in an alk. developer. The **compn.** shows high sensitivity,
resoln. and generation of const. wave on **resist** surface is
prevented.

ST **photoresist** pos alkali sol resin; acid **generator**
dissoln inhibitor **photoresist**; alkylene glycol alkyl ether
photoresist

IT **Surfactants**
(**fluorosurfactants**; pos. **photoresist** contg. acid
generator, alkali-sol. polymer, oligo alkylene glycol alkyl
ether, and **surfactant**)

IT Positive **photoresists**
(pos. **photoresist** contg. acid **generator**,
alkali-sol. polymer and oligo alkylene glycol alkyl ether)

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material

use); USES (Uses)

(**surfactant**; pos. **photoresist** contg. acid

generator, alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

IT 66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium perfluorooctanesulfonate 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate

RL: TEM (Technical or engineered material use); USES (Uses)

(acid **generator**; pos. **photoresist** contg. acid

generator, alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

IT 122752-67-4, tert-Butyl cholate

RL: TEM (Technical or engineered material use); USES (Uses)

(dissoln. inhibitor; pos. **photoresist** contg. acid

generator, alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

IT 112-49-2, 2,5,8,11-Tetraoxadodecane 143-24-8, 2,5,8,11,14-Pentaoxapentadecane 484-47-9, 2,4,5-Triphenylimidazole 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 4161-38-0 4353-28-0, 3,6,9,12,15-Pentaoxaheptadecane 4499-99-4, 3,6,9,12-Tetraoxatetradecane 5150-79-8, 4,8,12,16-Tetraoxanonadecane 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene 66226-74-2 99106-86-2 443892-52-2

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(pos. **photoresist** contg. acid **generator**,

alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

IT 177080-68-1P, 2-Methyl-2-adamantane methacrylate-mevalonic lactone methacrylate copolymer

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. **photoresist** contg. acid **generator**,

alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

IT 111-96-6 195000-67-0 216308-45-1 288303-55-9 297156-40-2 304441-22-3 307976-24-5 324770-96-9 357413-69-5 443892-46-4 443892-50-0 443892-51-1

RL: TEM (Technical or engineered material use); USES (Uses)

(pos. **photoresist** contg. acid **generator**,

alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(**surfactant**; pos. **photoresist** contg. acid

generator, alkali-sol. polymer, and oligo alkylene glycol alkyl ether)

L38 ANSWER 16 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:447169 HCAPLUS

DN 137:39318

TI Chemically amplified positive-working **photoresists** for vacuum UV exposure

IN Aogo, Toshiaki; Yasunami, Shoichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 50 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08L101-02; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002169287	A2	20020614	JP 2000-363338	20001129
PRAI	JP 2000-363338		20001129		

AB The **comps.** comprise (A) polymers, which become alkali-sol. by acid decompn., contg. F-substituted structures in a main chain and/or side chains and Si-contg. repeating units and (B) **photoacid generators**. The **photoresists** are particularly suitable for F2 excimer laser exposure.

ST **photoresist** silicon fluoropolymer vacuum UV exposure; chem amplification **photoresist** F2 excimer laser

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(KP 341, **surfactant**; alkali-developable chem. amplified pos.-working **photoresists** for excimer laser exposure)

IT Positive **photoresists**

(UV; alkali-developable chem. amplified pos.-working **photoresists** for excimer laser exposure)

IT **Surfactants**

(**fluorosurfactants**; alkali-developable chem. amplified pos.-working **photoresists** for excimer laser exposure)

IT 437613-53-1P 437613-54-2P 437613-55-3P 437613-56-4P 437613-57-5P

437613-59-7P 437756-96-2P 437770-23-5P 437770-25-7P 437770-26-8P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(alkali-developable chem. amplified pos.-working **photoresists** for excimer laser exposure)

IT 144317-44-2, Triphenylsulfonium nonaflate

RL: CAT (Catalyst use); USES (Uses)

(**photoacid generator**; alkali-developable chem. amplified pos.-working **photoresists** for excimer laser exposure)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(**surfactant**; alkali-developable chem. amplified pos.-working **photoresists** for excimer laser exposure)

L38 ANSWER 17 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:429222 HCAPLUS

DN 137:13268

TI Bases and **surfactants** and their use in photoresist **compositions** for microlithography

IN Berger, Larry L.; Crawford, Michael Carl; Schadt, Frank L., III; Zumsteg, Fredrick Claus, Jr.

PA E. I. Du Pont De Nemours and Company, USA

SO PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 35, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002044814	A2	20020606	WO 2001-US44294	20011126
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002028655	A5	20020611	AU 2002-28655	20011126
PRAI	US 2000-253820P	P	20001129		
	WO 2001-US44294	W	20011126		
AB	The present invention relates to a photoresist compn. having: (1) a polymer selected from the group consisting of: (a) a fluorine-contg. copolymer having a repeat unit derived from at least one ethylenically unsatd. compd. characterized in that at least one ethylenically unsatd. compd. is polycyclic; (b) a branched polymer contg. protected acid groups, said polymer comprising one or more branch segment(s) chem. linked along a linear backbone segment; (c) fluoropolymers having at least one fluoroalc. group having the structure: -C(Rf)(Rf')OH (Rf, Rf' = C1-10 fluoroalkyl groups or taken together are (CF ₂) _n , n = 2-10); (d) amorphous vinyl homopolymers of perfluoro(2,2-dimethyl-1,3-dioxole) or CX ₂ =CY ₂ (X = F or CF ₃ and Y = -H) or amorphous vinyl copolymers of perfluoro(2,2-dimethyl-1,3-dioxole) and CX ₂ =CY ₂ ; and (e) nitrile/fluoroalc.-contg. polymers prepd. from substituted or unsubstituted vinyl ethers; (2) at least one photoactive component; and (3) a functional compd. selected from the group consisting of a base and a surfactant . The polymer may have an absorption coeff. of < 5.0 .mu.m ⁻¹ at a wavelength of about 157 nm. These photoresist compns. have improved imaging properties. ST photoresist fluoropolymer base surfactant photolithog IT Photolithography (UV; bases and surfactants and polymer resin for photoresist compns. for microlithog.) IT Photoresists Surfactants (bases and surfactants and polymer resin for photoresist compns. for microlithog.) IT Fluoropolymers, uses RL: TEM (Technical or engineered material use); USES (Uses) (bases and surfactants and polymer resin for photoresist compns. for microlithog.) IT 102-71-6, Triethanolamine, uses 768-66-1, 2,2,6,6-Tetramethylpiperidine 1116-76-3, Trioctylamine 2052-49-5, Tetrabutylammonium hydroxide 2403-88-5, 2,2,6,6-Tetramethyl-4-piperidinol 3040-44-6, 1-Piperidineethanol 3088-41-3, 1-Piperidinepropionitrile 3825-26-1, Perfluorooctanoic acid, ammonium salt 4847-93-2, 3-Piperidino-1,2-propanediol 23133-37-1, 1-Propyl-4-piperidone 178324-24-8, Tetrabutylammonium lactate, uses RL: TEM (Technical or engineered material use); USES (Uses) (bases and surfactants and polymer resin for photoresist compns. for microlithog.) IT 415686-72-5P RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP				

(Preparation); RACT (Reactant or reagent)

(prepn. of polymer resin for **photoresist compns.**
for microlithog.)

IT 5292-43-3DP, Tert-Butyl bromoacetate, reaction product with hydroxy fluoro
norbornene polymer **305815-60-5DP**, reaction product with Bu
bromoacetate **305815-60-5P 433713-51-0P**

433713-52-1DP, reaction product with Bu bromoacetate

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)

(prepn. of polymer resin for **photoresist compns.**
for microlithog.)

IT 2890-98-4, exo-5-Norbornen-2-ol **31898-68-7**,
Hexafluoroisobutylene oxide

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of polymer resin for **photoresist compns.**
for microlithog.)

IT **415686-72-5P**

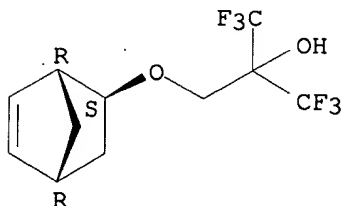
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)

(prepn. of polymer resin for **photoresist compns.**
for microlithog.)

RN 415686-72-5 HCAPLUS

CN 2-Propanol, 2-[[[(1R,2S,4R)-bicyclo[2.2.1]hept-5-en-2-yloxy)methyl]-
1,1,1,3,3,3-hexafluoro-, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



IT **305815-60-5DP**, reaction product with Bu bromoacetate
305815-60-5P 433713-51-0P 433713-52-1DP,
reaction product with Bu bromoacetate

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
engineered material use); PREP (Preparation); USES (Uses)

(prepn. of polymer resin for **photoresist compns.**
for microlithog.)

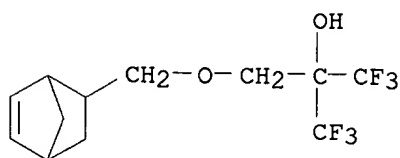
RN 305815-60-5 HCAPLUS

CN 2-Propanol, 2-[(bicyclo[2.2.1]hept-5-en-2-ylmethoxy)methyl]-1,1,1,3,3,3-
hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 262617-23-2

CMF C12 H14 F6 O2



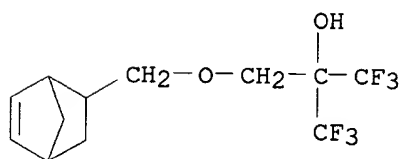
RN 305815-60-5 HCAPLUS

CN 2-Propanol, 2-[(bicyclo[2.2.1]hept-5-en-2-ylmethoxy)methyl]-1,1,1,3,3,3-hexafluoro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 262617-23-2

CMF C12 H14 F6 O2



RN 433713-51-0 HCAPLUS

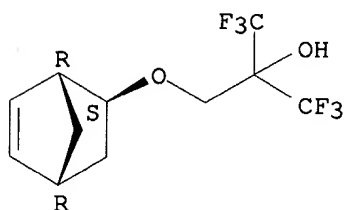
CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
rel-2-[[[(1R,2S,4R)-bicyclo[2.2.1]hept-5-en-2-yloxy]methyl]-1,1,1,3,3,3-hexafluoro-2-propanol and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 415686-72-5

CMF C11 H12 F6 O2

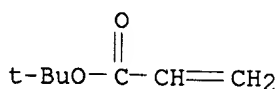
Relative stereochemistry.



CM 2

CRN 1663-39-4

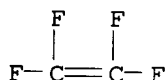
CMF C7 H12 O2



CM 3

CRN 116-14-3

CMF C2 F4



RN 433713-52-1 HCAPLUS

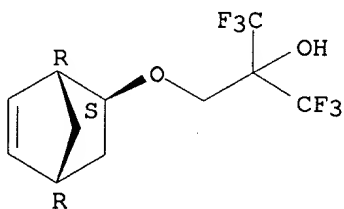
CN 2-Propanol, 2-[[[(1R,2S,4R)-bicyclo[2.2.1]hept-5-en-2-yloxy)methyl]-1,1,1,3,3,3-hexafluoro-, rel-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 415686-72-5

CMF C11 H12 F6 O2

Relative stereochemistry.



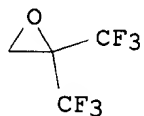
IT 31898-68-7, Hexafluoroisobutylene oxide

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of polymer resin for **photoresist compns.** for microlithog.)

RN 31898-68-7 HCAPLUS

CN Oxirane, 2,2-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L38 ANSWER 18 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:427822 HCAPLUS

DN 137:13263

TI Positive-working electron beam or x-ray **resist compositions** using specific combination of solvents

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

IN Uenishi, Kazuya
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 62 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS G03F007-004; H01L021-027
 CC 74-5 (Radiavents)
 IT 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
 (Reactant or reagent)
 (photoacid generator; pos.-working electron beam or
 x-ray **resist compns.** contg. cationically-
 polymerizable monomers and .gtoreq.2 solvents)
 IT 153698-46-5P, Triphenylsulfonium pentafluorobenzenesulfonate
 258341-98-9P 270563-93-4P 270563-96-7P
 RL: CAT (Catalyst use); IMF (Industrial manufacture); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (pos.-working electron beam or x-ray **resist compns.**
 contg. cationically-polymerizable monomers and .gtoreq.2 solvents)
 IT 270563-92-3 279244-43-8 279244-45-0 389859-77-2 398457-16-4
 405893-16-5
 RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES
 (Uses)
 (pos.-working electron beam or x-ray **resist compns.**
 contg. cationically-polymerizable monomers and .gtoreq.2 solvents)
 IT 41440-39-5P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (pos.-working electron beam or x-ray **resist compns.**
 contg. cationically-polymerizable monomers and .gtoreq.2 solvents)
 IT 484-47-9, 2,4,5-Triphenylimidazole
 RL: MOA (Modifier or additive use); TEM (Technical or engineered
 material use); USES (Uses)
 (pos.-working electron beam or x-ray **resist compns.**
 contg. cationically-polymerizable monomers and .gtoreq.2 solvents)
 IT 50-21-5D, Lactic acid, alkyl esters 57-55-6D, Propylene glycol,
 monoalkyl ethers 79-33-4D, alkyl esters 96-48-0, .gamma.-Butyrolactone
 96-49-1, Ethylene carbonate 97-64-3, Ethyl lactate 108-32-7, Propylene
 carbonate 110-43-0, 2-Heptanone 123-86-4, Butyl acetate 502-44-3,
 .epsilon.-Caprolactone 763-69-9, Ethyl 3-ethoxypropionate 765-14-0
 929-37-3 1320-67-8, Propylene glycol monomethyl ether 2182-55-0
 4223-11-4 25085-99-8, Epikote 825 26256-87-1, 2,5,8,11-Tetraoxatridec-
 12-ene 50856-25-2 92268-17-2 160768-40-1 212555-24-3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pos.-working electron beam or x-ray **resist compns.**
 contg. cationically-polymerizable monomers and .gtoreq.2 solvents)

L38 ANSWER 19 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2002:392162 HCAPLUS
 DN 136:409022
 TI Positive **resist composition**
 IN Aoi, Toshiaki; Yasunami, Shoichiro; Mizutani, Kazuyoshi; Kanna, Shinichi
 PA Fuji Photo Film Co., Ltd., Japan
 SO U.S. Pat. Appl. Publ., 56 pp.
 CODEN: USXXCO
 DT Patent

LA English
 IC ICM G03F007-004
 NCL 430270100
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002061464	A1	20020523	US 2001-961281	20010925
	JP 2002333715	A2	20021122	JP 2001-202298	20010703
PRAI	JP 2000-292537	A	20000926		
	JP 2000-379284	A	20001213		
	JP 2001-62158	A	20010306		
	JP 2001-202298	A	20010703		

AB The present invention relates to a pos. **resist compn.** comprising: (A) a fluorine group-contg. resin having at least one fluorine atom on at least one of the main chain and the side chain of the polymer skeleton; and having a group capable of decomp. under the action of an acid to increase the soly. in an alkali developer; (B) a compd. capable of generating an acid upon irradiation with one of actinic ray and radiation; and (C) a **surfactant** contg. at least one of a silicon atom and a fluorine atom. The present invention provides a pos. **photoresist compn.** suitable for use in the microlithog. process in the prodn. of VLSI or high-capacity microchip, or in other photo-fabrication processes. The invention pos. **photoresist compn.** is capable of forming a highly definite pattern using a vacuum UV ray of < 160 nm.

ST **photoresist** fluorine contg resin **compn**

IT **surfactant** photolithog UV

IT **Surfactants**

(fluorine group-contg. pos. **resist compn.** contg.)

IT Positive **photoresists**

(fluorine group-contg. resin for pos. **resist compn** .)

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(**surfactant**; fluorine group-contg. pos.

resist compn. contg.)

IT Photolithography

(vacuum UV; fluorine group-contg. resin for pos. **resist compn.** for)

IT 262617-13-0P 430436-66-1P 430436-67-2P
 430436-68-3P 430436-70-7P 430436-72-9P
 430436-74-1P 430436-76-3P 430436-78-5P
 430436-79-6P 430436-81-0P 430436-82-1P
 430436-84-3P 430436-85-4P 430436-86-5P
 430436-87-6P 430436-89-8P 430436-90-1P
 430436-91-2P 430436-92-3P 430436-94-5P
 430436-95-6P 430436-97-8P 430436-98-9P
 430436-99-0P 430437-01-7P 430437-03-9P 430437-04-0P
 430437-05-1P 430437-07-3P 430437-09-5P 430437-11-9P
 430437-12-0P 430437-13-1P 430437-14-2P
 430437-15-3P 430437-17-5P 430437-18-6P
 430437-19-7P 430437-21-1P 430437-22-2P
 430437-24-4P 430437-26-6P 430437-27-7P
 430437-29-9P 430437-30-2P 430437-32-4P

430437-33-5P 430437-34-6P 430437-35-7P
430437-36-8P 430437-37-9P 430437-38-0P
430437-39-1P 430437-40-4P 430437-42-6P
430437-44-8P 430437-46-0P 431062-12-3P
431062-14-5P 431062-16-7P 431062-17-8P
431062-18-9P 431062-20-3P 431062-22-5P
431062-24-7P 431062-25-8P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine group-contg. resin for pos. **resist compn**
.)

IT 144317-44-2, Triphenylsulfonium nonaflate

RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generator**; fluorine group-contg. pos.
resist compn. contg.)

IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac F176
216679-67-3, Megafac R08

RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; fluorine group-contg. pos.
resist compn. contg.)

IT 262617-13-0P 430436-66-1P 430436-67-2P
430436-68-3P 430436-70-7P 430436-72-9P
430436-74-1P 430436-76-3P 430436-78-5P
430436-79-6P 430436-81-0P 430436-82-1P
430436-84-3P 430436-85-4P 430436-86-5P
430436-87-6P 430436-89-8P 430436-90-1P
430436-91-2P 430436-92-3P 430436-94-5P
430436-95-6P 430436-97-8P 430436-98-9P
430436-99-0P 430437-09-5P 430437-11-9P
430437-12-0P 430437-13-1P 430437-14-2P
430437-15-3P 430437-17-5P 430437-18-6P
430437-19-7P 430437-21-1P 430437-22-2P
430437-24-4P 430437-26-6P 430437-27-7P
430437-29-9P 430437-30-2P 430437-32-4P
430437-33-5P 430437-34-6P 430437-36-8P
430437-37-9P 430437-38-0P 430437-39-1P
430437-42-6P 430437-44-8P 430437-46-0P
431062-12-3P 431062-14-5P 431062-16-7P
431062-17-8P 431062-18-9P 431062-20-3P
431062-22-5P 431062-24-7P 431062-25-8P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine group-contg. resin for pos. **resist compn**
.)

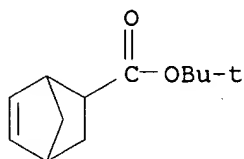
RN 262617-13-0 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with bicyclo[2.2.1]hept-2-ene and tetrafluoroethene (9CI) (CA
INDEX NAME)

CM 1

CRN 154970-45-3

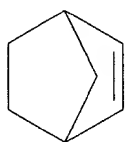
CMF C12 H18 O2



CM 2

CRN 498-66-8

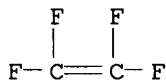
CMF C7 H10



CM 3

CRN 116-14-3

CMF C2 F4



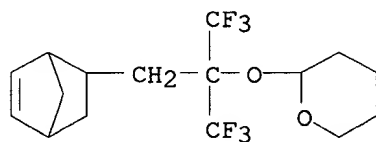
RN 430436-66-1 HCAPLUS

CN 2-Propenoic acid, 1,1-dimethylethyl ester, polymer with
 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-
 (trifluoromethyl)ethoxy]tetrahydro-2H-pyran and 2,5-furandione (9CI) (CA
 INDEX NAME)

CM 1

CRN 430436-65-0

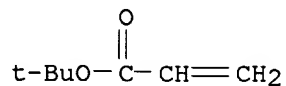
CMF C16 H20 F6 O2



CM 2

CRN 1663-39-4

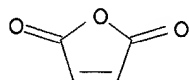
CMF C7 H12 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



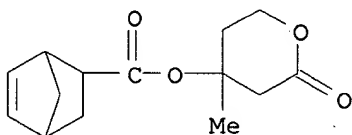
RN 430436-67-2 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrafluoroethene and tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl bicyclo[2.2.1]hept-5-ene-2-carboxylate (9CI) (CA INDEX NAME)

CM 1

CRN 357400-43-2

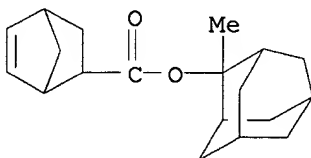
CMF C14 H18 O4



CM 2

CRN 328087-85-0

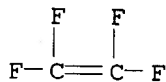
CMF C19 H26 O2



CM 3

CRN 116-14-3

CMF C2 F4



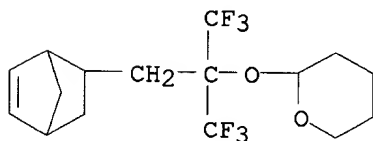
RN 430436-68-3 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with 2-[1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]tetrahydro-2H-pyran and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 430436-65-0

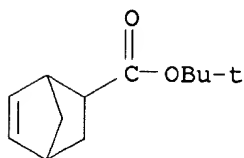
CMF C16 H20 F6 O2



CM 2

CRN 154970-45-3

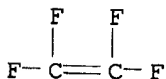
CMF C12 H18 O2



CM 3

CRN 116-14-3

CMF C2 F4



RN 430436-70-7 HCAPLUS

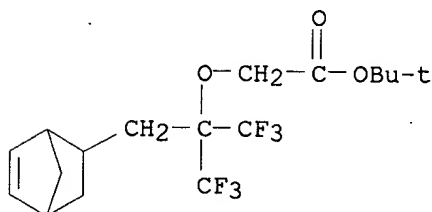
CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl ester, polymer with 1,1-dimethylethyl [1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethoxy]acetate and

2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 430436-69-4

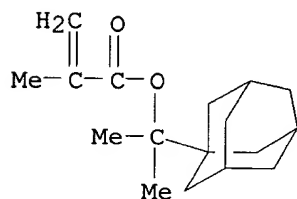
CMF C17 H22 F6 O3



CM 2

CRN 279218-76-7

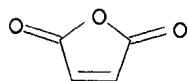
CMF C17 H26 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



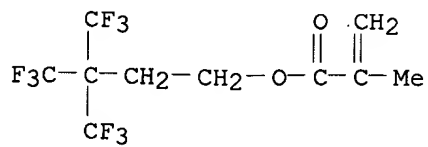
RN 430436-72-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
 polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate
 and 4,4,4-trifluoro-3,3-bis(trifluoromethyl)butyl 2-methyl-2-propenoate
 (9CI) (CA INDEX NAME)

CM 1

CRN 430436-71-8

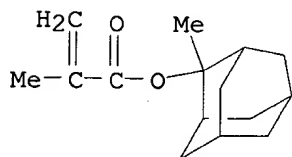
CMF C10 H9 F9 O2



CM 2

CRN 177080-67-0

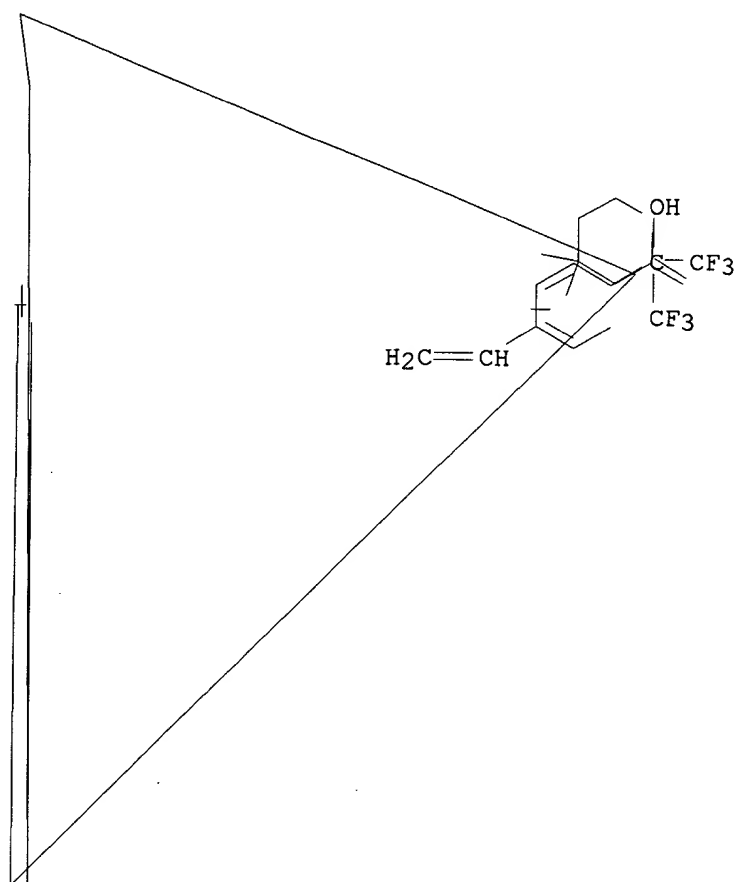
CMF C15 H22 O2



CM 3

CRN 177080-66-9

CMF C10 H14 O4



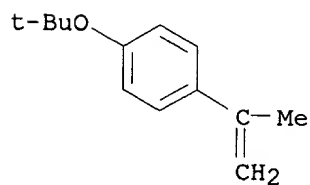
RN 430437-19-7 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-(1-methylethenyl)benzene (9CI) (CA INDEX
NAME)

CM 1

CRN 105612-78-0

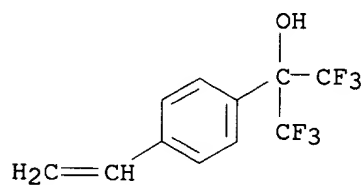
CMF C13 H18 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



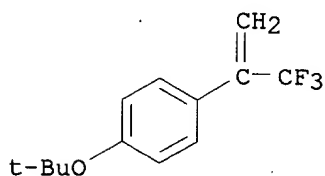
RN 430437-21-1 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-[1-(trifluoromethyl)ethenyl]benzene (9CI)
(CA INDEX NAME)

CM 1

CRN 430437-20-0

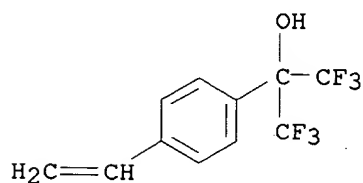
CMF C13 H15 F3 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



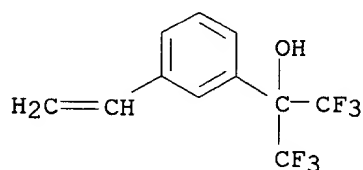
RN 430437-22-2 HCAPLUS

CN Benzenemethanol, 3-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 122056-08-0

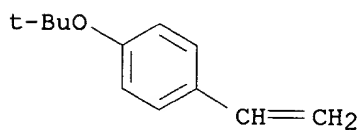
CMF C11 H8 F6 O



CM 2

CRN 95418-58-9

CMF C12 H16 O



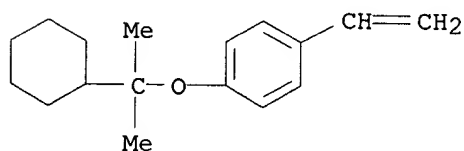
RN 430437-24-4 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.-methyl-.alpha.-(trifluoromethyl)-,
polymer with 1-(1-cyclohexyl-1-methylethoxy)-4-ethenylbenzene (9CI) (CA
INDEX NAME)

CM 1

CRN 430437-23-3

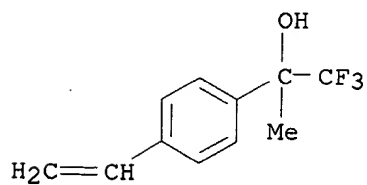
CMF C17 H24 O



CM 2

CRN 397287-76-2

CMF C11 H11 F3 O



RN 430437-26-6 HCAPLUS

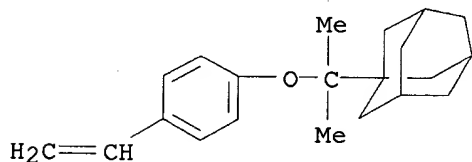
CN Benzenemethanol, 4-ethenyl-.alpha.-methyl-.alpha.-(trifluoromethyl)-,

polymer with 1-[1-(4-ethenylphenoxy)-1-methylethyl]tricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 430437-25-5

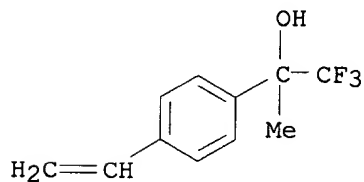
CMF C21 H28 O



CM 2

CRN 397287-76-2

CMF C11 H11 F3 O



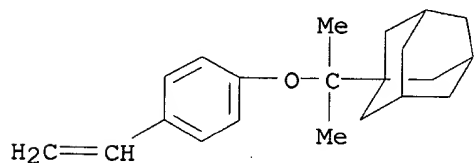
RN 430437-27-7 HCAPLUS

CN Benzenemethanol, 4-(1-methylethenyl)-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-[1-(4-ethenylphenoxy)-1-methylethyl]tricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 430437-25-5

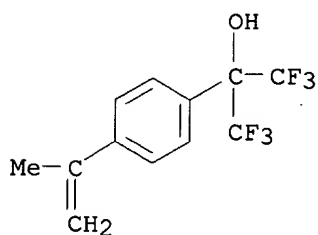
CMF C21 H28 O



CM 2

CRN 120721-71-3

CMF C12 H10 F6 O



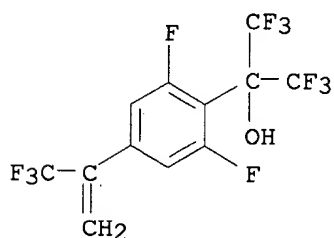
RN 430437-29-9 HCAPLUS

CN Benzenemethanol, 2,6-difluoro-.alpha.,.alpha.-bis(trifluoromethyl)-4-[1-(trifluoromethyl)ethenyl]-, polymer with 1-[1-(4-ethenylphenoxy)-1-methylethyl]tricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 430437-28-8

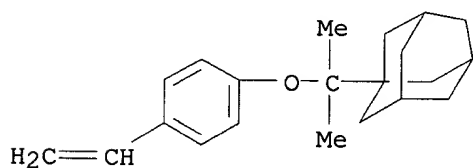
CMF C12 H5 F11 O



CM 2

CRN 430437-25-5

CMF C21 H28 O



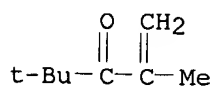
RN 430437-30-2 HCAPLUS

CN 1-Penten-3-one, 2,4,4-trimethyl-, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 7432-56-6

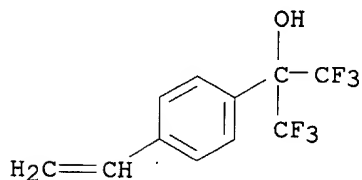
CMF C8 H14 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



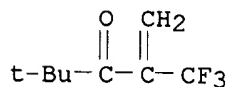
RN 430437-32-4 HCAPLUS

CN 1-Penten-3-one, 4,4-dimethyl-2-(trifluoromethyl)-, polymer with
4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA
INDEX NAME)

CM 1

CRN 430437-31-3

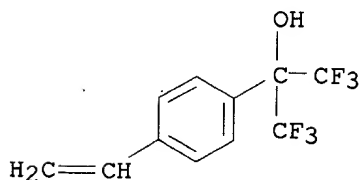
CMF C8 H11 F3 O



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



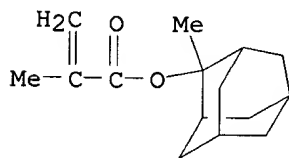
RN 430437-33-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol
(9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0

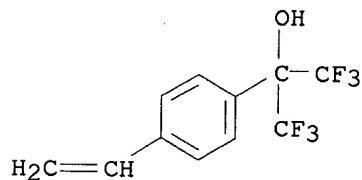
CMF C15 H22 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



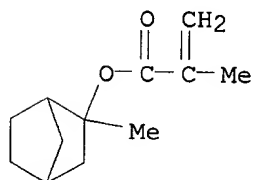
RN 430437-34-6 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methylbicyclo[2.2.1]hept-2-yl ester,
polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol
(9CI) (CA INDEX NAME)

CM 1

CRN 344614-23-9

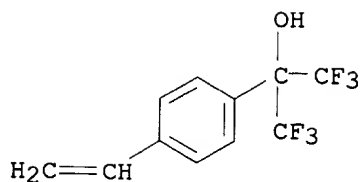
CMF C12 H18 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



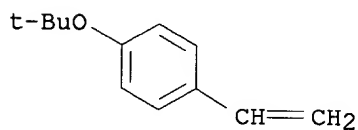
RN 430437-36-8 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and tetrafluoroethene (9CI)
(CA INDEX NAME)

CM 1

CRN 95418-58-9

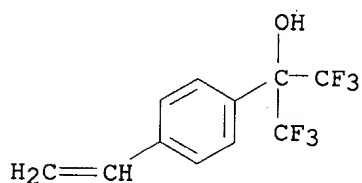
CMF C12 H16 O



CM 2

CRN 2386-82-5

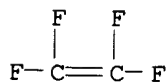
CMF C11 H8 F6 O



CM 3

CRN 116-14-3

CMF C2 F4



RN 430437-37-9 HCAPLUS

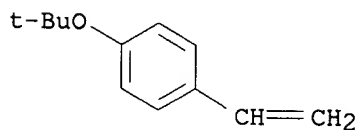
CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer
with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 4-(1-methylethenyl)phenol

(9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

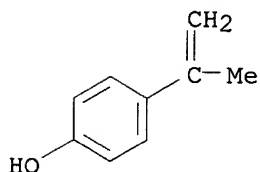
CMF C12 H16 O



CM 2

CRN 4286-23-1

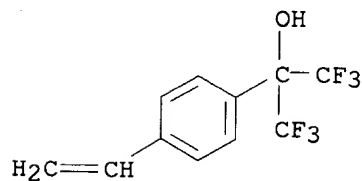
CMF C9 H10 O



CM 3

CRN 2386-82-5

CMF C11 H8 F6 O



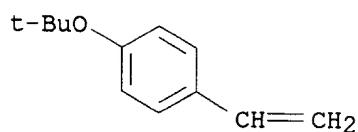
RN 430437-38-0 HCAPLUS

CN Benzenemethanol, 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and ethoxytrifluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 95418-58-9

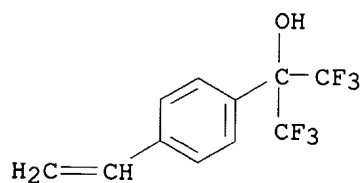
CMF C12 H16 O



CM 2

CRN 2386-82-5

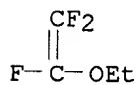
CMF C11 H8 F6 O



CM 3

CRN 1763-27-5

CMF C4 H5 F3 O



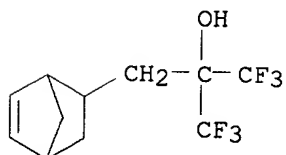
RN 430437-39-1 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-ethanol, .alpha.,.alpha.-bis(trifluoromethyl)-, polymer with 1-(1,1-dimethylethoxy)-4-ethenylbenzene and 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

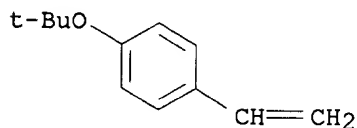
CRN 196314-61-1

CMF C11 H12 F6 O



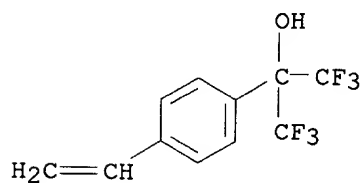
CM 2

CRN 95418-58-9
CMF C12 H16 O



CM 3

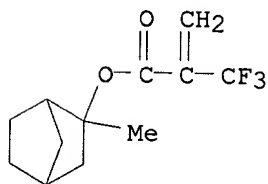
CRN 2386-82-5
CMF C11 H8 F6 O



RN 430437-42-6 HCAPLUS
CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methylbicyclo[2.2.1]hept-2-yl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

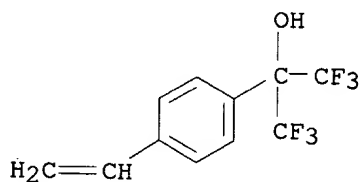
CM 1

CRN 430437-41-5
CMF C12 H15 F3 O2



CM 2

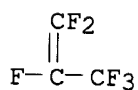
CRN 2386-82-5
CMF C11 H8 F6 O



CM 3

CRN 116-15-4

CMF C3 F6



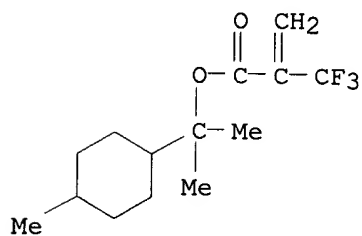
RN 430437-44-8 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1-methyl-1-(4-methylcyclohexyl)ethyl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol and 3-(1-methylethenyl)phenol (9CI)
(CA INDEX NAME)

CM 1

CRN 430437-43-7

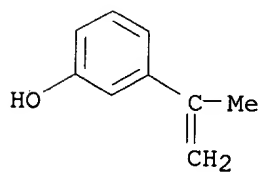
CMF C14 H21 F3 O2



CM 2

CRN 51985-06-9

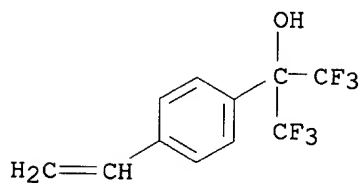
CMF C9 H10 O



CM 3

CRN 2386-82-5

CMF C11 H8 F6 O



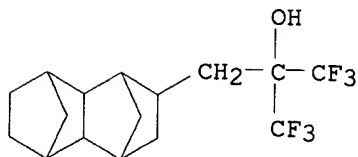
RN 430437-46-0 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methylbicyclo[2.2.1]hept-2-yl ester, polymer with decahydro-.alpha.,.alpha.-bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-2-ethanol and 2,6-difluoro-.alpha.,.alpha.-bis(trifluoromethyl)-4-[1-(trifluoromethyl)ethenyl]benzenemethanol (9CI)
(CA INDEX NAME)

CM 1

CRN 430437-45-9

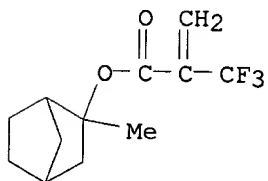
CMF C16 H20 F6 O



CM 2

CRN 430437-41-5

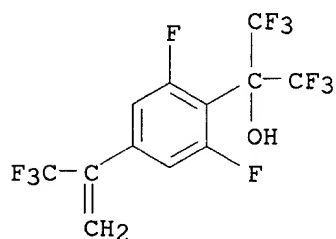
CMF C12 H15 F3 O2



CM 3

CRN 430437-28-8

CMF C12 H5 F11 O



RN 431062-12-3 HCAPLUS

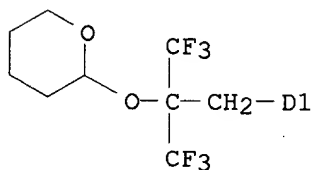
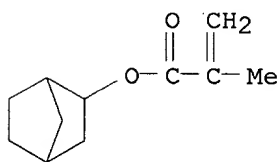
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
 polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate
 and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-
 (trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate
 (9CI) (CA INDEX NAME)

CM 1

CRN 431062-13-4

CMF C20 H26 F6 O4

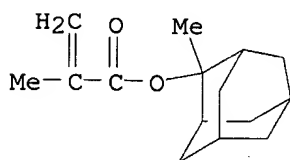
CCI IDS



CM 2

CRN 177080-67-0

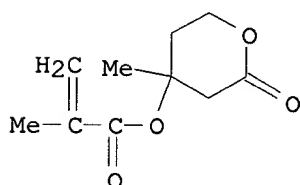
CMF C15 H22 O2



CM 3

CRN 177080-66-9

CMF C10 H14 O4



RN 431062-14-5 HCAPLUS

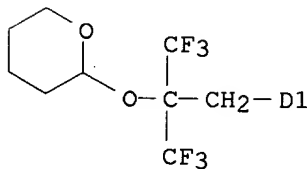
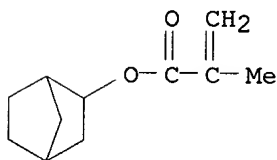
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 431062-13-4

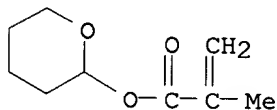
CMF C20 H26 F6 O4

CCI IDS



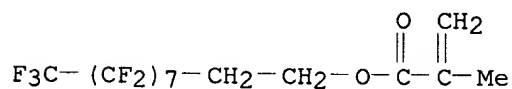
CM 2

CRN 52858-59-0
CMF C9 H14 O3



CM 3

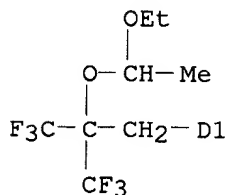
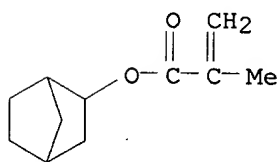
CRN 1996-88-9
CMF C14 H9 F17 O2



RN 431062-16-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 5(or 6)-[2-(1-ethoxyethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl ester polymer with 1-ethenyl-4-[1-(1-ethoxyethoxy)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl]benzene and 1-methyl-1-tricyclo[3.3.1.1^{3,7}]dec-1-ylethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

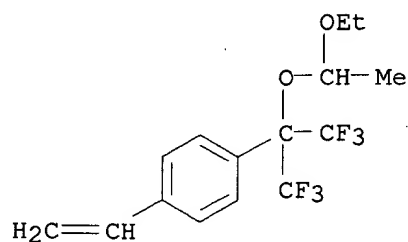
CRN 431062-15-6
CMF C19 H26 F6 O4
CCI IDS



CM 2

CRN 430437-00-6

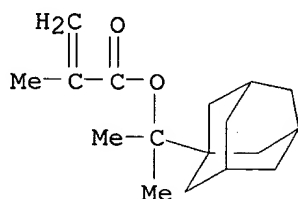
CMF C15 H16 F6 O2



CM 3

CRN 279218-76-7

CMF C17 H26 O2



RN 431062-17-8 HCAPLUS

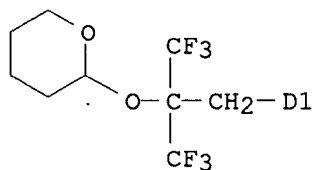
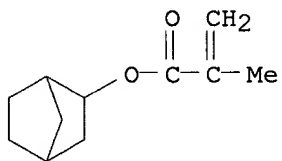
CN 2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester, polymer with 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 431062-13-4

CMF C20 H26 F6 O4

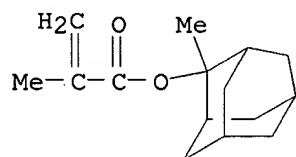
CCI IDS



CM 2

CRN 177080-67-0

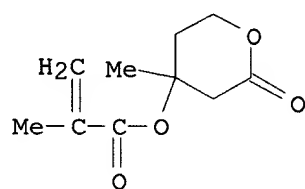
CMF C15 H22 O2



CM 3

CRN 177080-66-9

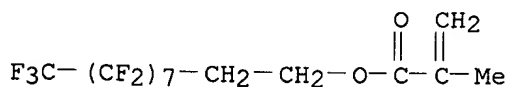
CMF C10 H14 O4



CM 4

CRN 1996-88-9

CMF C14 H9 F17 O2



RN 431062-18-9 HCAPLUS

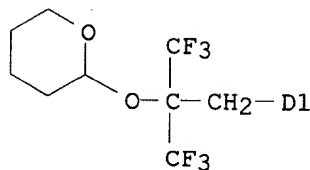
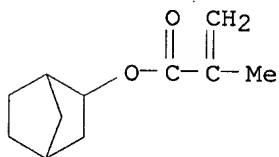
CN 2-Propenoic acid, 2-methyl-, tetrahydro-5,5-dimethyl-2-oxo-3-furanyl ester, polymer with tetrahydro-2H-pyran-2-yl 2-methyl-2-propenoate, 4,4,4-trifluoro-3,3-bis(trifluoromethyl)butyl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 431062-13-4

CMF C20 H26 F6 O4

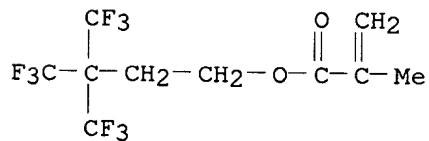
CCI IDS



CM 2

CRN 430436-71-8

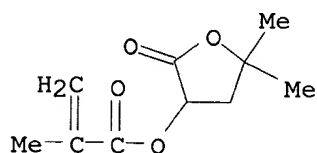
CMF C10 H9 F9 O2



CM 3

CRN 280552-09-2

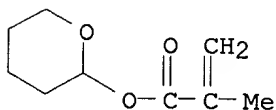
CMF C10 H14 O4



CM 4

CRN 52858-59-0

CMF C9 H14 O3



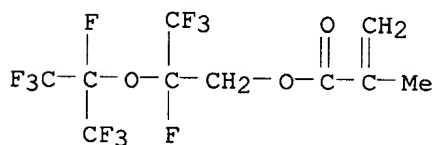
RN 431062-20-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-methyl-1-tricyclo[3.3.1.1.3]dec-1-ylethyl ester, polymer with 2,3,3,3-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethoxy]propyl 2-methyl-2-propenoate, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 431062-19-0

CMF C10 H7 F11 O3

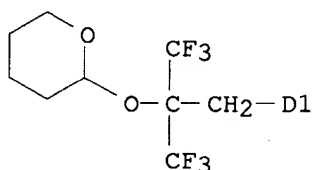
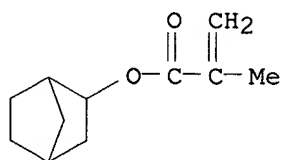


CM 2

CRN 431062-13-4

CMF C20 H26 F6 O4

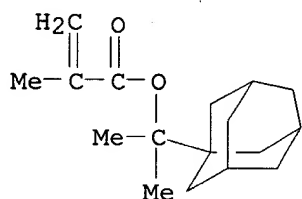
CCI IDS



CM 3

CRN 279218-76-7

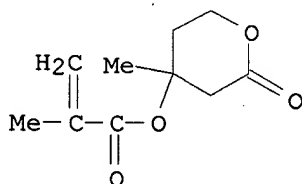
CMF C17 H26 O2



CM 4

CRN 177080-66-9

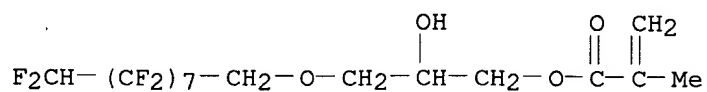
CMF C10 H14 O4



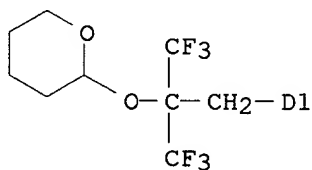
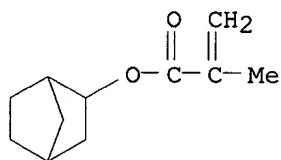
RN 431062-22-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 3-[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl)oxy]-2-hydroxypropyl ester, polymer with 1-methyl-1-(tetrahydro-5-oxo-3-furanyl)ethyl 2-methyl-2-propenoate, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and 5(or 6)-[3,3,3-trifluoro-2-[(tetrahydro-2H-pyran-2-yl)oxy]-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

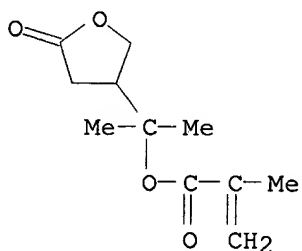
CM 1

CRN 431062-21-4
CMF C16 H14 F16 O4

CM 2

CRN 431062-13-4
CMF C20 H26 F6 O4
CCI IDS

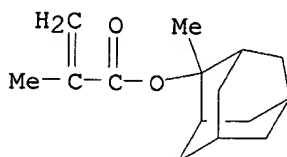
CM 3

CRN 280566-59-8
CMF C11 H16 O4

CM 4

CRN 177080-67-0

CMF C15 H22 O2



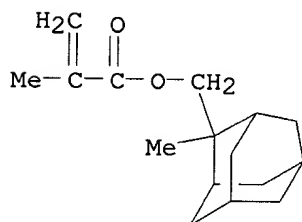
RN 431062-24-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, (2-methyltricyclo[3.3.1.13,7]dec-2-yl)methyl ester, polymer with 4-ethenyl-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 431062-23-6

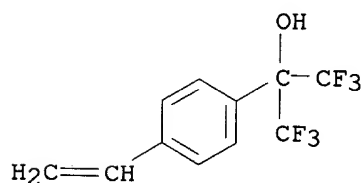
CMF C16 H24 O2



CM 2

CRN 2386-82-5

CMF C11 H8 F6 O



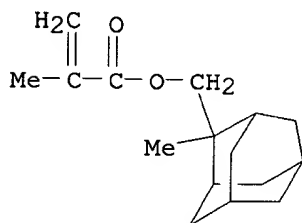
RN 431062-25-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, (2-methyltricyclo[3.3.1.13,7]dec-2-yl)methyl ester, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and 4-(1-methylethenyl)-.alpha.,.alpha.-bis(trifluoromethyl)benzenemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 431062-23-6

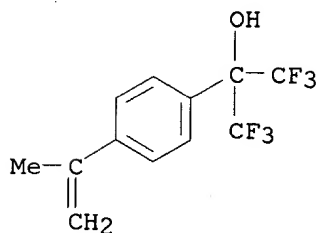
CMF C16 H24 O2



CM 2

CRN 120721-71-3

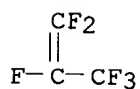
CMF C12 H10 F6 O



CM 3

CRN 116-15-4

CMF C3 F6



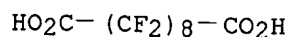
L38 ANSWER 20 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:378692 HCAPLUS
DN 136:409015
TI Aqueous surface-treating **compositions** for resists and pattern formation using them
IN Hatakeyama, Jun; Watanabe, Atsushi; Harada, Yuji; Kawai, Yoshio; Sasako, Masaru; Endo, Masataka; Kishimura, Shinji; Otani, Michitaka; Miyazawa, Satoru; Tsutsumi, Kentaro; Maeda, Kazuhiko
PA Shin-Etsu Chemical Industry Co., Ltd., Japan; Matsushita Electric Industrial Co., Ltd.; Central Glass Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-38

ICS G03F007-004; G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

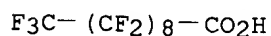
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002148821	A2	20020522	JP 2000-346448	20001114
PRAI	JP 2000-346448		20001114		
OS	MARPAT 136:409015				
AB	The comps. for prewet treatment of F- or Si-contg. polymer resist materials with high water repellency before development show surface tension .ltoreq.25 dyn/cm at 25.degree. and pH .ltoreq.7 at 25.degree.. Patterns are formed by applying F- or Si-contg. polymer resist materials on substrates, exposing the resulting resist films, postexposure baking, treating with the comps. , and developing. The surface-treated resist materials show good wettability for developers and give defect-free patterns.				
ST	fluoropolymer resist surface treatment developer wettability; silicon polymer resist surface treatment developer wettability; fluoro surfactant prewetting agent photoresist wettability				
IT	Photoresists (aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
IT	Fluoropolymers, processes RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
IT	Surfactants (fluorosurfactants ; aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
IT	Polyoxyalkylenes, uses RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses) (polyoxymethylene-, perfluoro; aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
IT	141-43-5, Ethanolamine, uses 307-78-8 335-76-2 25038-02-2 51604-67-2 68259-12-1 88177-20-2 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses) (aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
IT	417704-57-5 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
IT	307-78-8 335-76-2 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses) (aq. prewetting comps. with specified surface tension for resists giving defect-free patterns)				
RN	307-78-8 HCAPLUS				
CN	Decanedioic acid, hexadecafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)				



RN 335-76-2 HCAPLUS

CN Decanoic acid, nonadecafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT 417704-57-5

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(aq. prewetting **compns.** with specified surface tension for **resists** giving defect-free patterns)

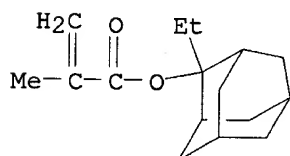
RN 417704-57-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate and 2,2,2-trifluoroethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 209982-56-9

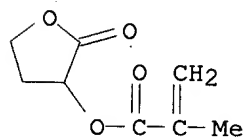
CMF C16 H24 O2



CM 2

CRN 195000-66-9

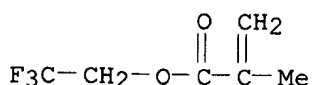
CMF C8 H10 O4



CM 3

CRN 352-87-4

CMF C6 H7 F3 O2



L38 ANSWER 21 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:364226 HCAPLUS

DN 136:393267

TI Positive-working **resist compositions** with high sensitivity and resolution

IN Fujimori, Toru; Tan, Shiro; Nakao, Hajime

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08K005-095; C08K005-16; C08L057-00; G03F007-004;

H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002139839	A2	20020517	JP 2000-332955	20001031
PRAI	JP 2000-332955		20001031		

OS MARPAT 136:393267

AB The **comps.** contain **photoacid generators**

(A), polymers (B) having alicyclic hydrocarbon structures in the main or side chains and good soly. in alkali developing agents by acid-induced decompn., and compds. (C) shown as RXC:OOH (R = F-contg. hydrocarbyl; X = F-free divalent linking group). The **comps.**, useful for microphotofabrication using ArF excimer laser in semiconductor device fabrication, give **resist** patterns with good pattern profiles and reduced standing wave effect.

ST pos **photoresist** standing wave effect prevention; **resist photoacid generator photolithog** semiconductor

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(KP 341, **surfactant**; pos.-working **photoresist**

comps. with high sensitivity and reduced standing wave effect)

IT Positive **photoresists**

(far UV; pos.-working **photoresist comps.** with high sensitivity and reduced standing wave effect)

IT **Surfactants**

(pos.-working **photoresist comps.** with high sensitivity and reduced standing wave effect)

IT Amines, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist comps.** with high

sensitivity and reduced standing wave effect)

IT 177080-68-1P, 2-Methyl-2-adamantane methacrylate-mevalonic lactone methacrylate copolymer

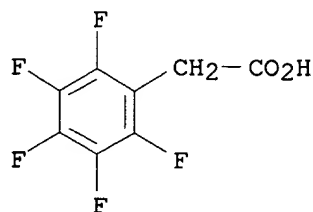
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

- (acid-decomposable polymer; pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- IT 195000-67-0 195154-83-7 216308-45-1, Methacrylic acid-2-methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 288303-55-9 297156-40-2 304441-22-3, Diethyleneglycol monomethyl ether methacrylate-2-methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 307976-27-8 324770-96-9 357413-69-5 357413-70-8 357413-71-9
- RL: TEM (Technical or engineered material use); USES (Uses)
(acid-decomposable polymer; pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- IT 122752-67-4, tert-Butyl cholate
- RL: TEM (Technical or engineered material use); USES (Uses)
(dissoln. inhibitor; pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- IT 66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium perfluorooctanesulfonate 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate
- RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generator**; pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- IT 356-02-5 484-47-9, 2,4,5-Triphenylimidazole 653-21-4 2516-99-6 3001-72-7, DBN 6674-22-2, DBU 85068-33-3 181772-16-7
- RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
- RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- IT 356-02-5 653-21-4 2516-99-6 85068-33-3 181772-16-7
- RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist compns.** with high sensitivity and reduced standing wave effect)
- RN 356-02-5 HCAPLUS
- CN Hexanoic acid, 4,4,5,5,6,6,6-heptafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

F₃C-CF₂-CF₂-CH₂-CH₂-CO₂H

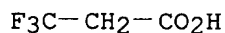
RN 653-21-4 HCAPLUS

CN Benzeneacetic acid, 2,3,4,5,6-pentafluoro- (9CI) (CA INDEX NAME)



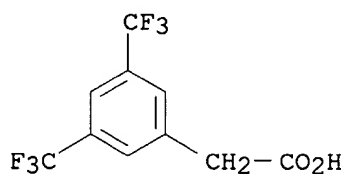
RN 2516-99-6 HCAPLUS

CN Propanoic acid, 3,3,3-trifluoro- (9CI) (CA INDEX NAME)



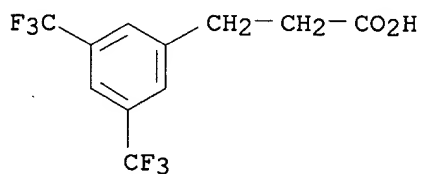
RN 85068-33-3 HCAPLUS

CN Benzeneacetic acid, 3,5-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



RN 181772-16-7 HCAPLUS

CN Benzenepropanoic acid, 3,5-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L38 ANSWER 22 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:364225 HCAPLUS

DN 136:393266

TI Positive-working **resist compositions** with high sensitivity and resolution

IN Fujimori, Toru; Tan, Shiro; Nakao, Hajime

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 45 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08K005-10; C08K005-16; C08L101-02; G03F007-004;

H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and

Other Reprographic Processes)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002139837	A2	20020517	JP 2000-332733	20001031
PRAI	JP 2000-332733		20001031		
OS	MARPAT 136:393266				
AB	The comps. contain photoacid generators (A), polymers (B) having alicyclic hydrocarbon structures in the main or side chains and good soly. in alkali developing agents by acid-induced decompn., and compds. (C) shown as RWC:OOB (R = F-contg. hydrocarbyl; W = F-free divalent org. group; B = acid-decomposable group). The comps. , useful for microphotofabrication using ArF excimer laser in semiconductor device fabrication, give resist patterns with good pattern profiles and reduced standing wave effect.				
ST	pos photoresist standing wave effect prevention; resist photoacid generator photolithog semiconductor fabrication; far UV photoresist alkali development				
IT	Polysiloxanes, uses RL: TEM (Technical or engineered material use); USES (Uses) (KP 341, surfactant ; pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	Positive photoresists (far UV; pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	Surfactants (pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	177080-68-1P, 2-Methyl-2-adamantane methacrylate-mevalonic lactone methacrylate copolymer RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acid-decomposable polymer; pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	195000-67-0 195154-83-7 216308-45-1, Methacrylic acid-2-methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 288303-55-9 297156-40-2 304441-22-3, Diethyleneglycol monomethyl ether methacrylate-2-methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 307976-27-8 324770-96-9 357413-69-5 357413-70-8 357413-71-9 RL: TEM (Technical or engineered material use); USES (Uses) (acid-decomposable polymer; pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	122752-67-4, tert-Butyl cholate RL: TEM (Technical or engineered material use); USES (Uses) (dissoln. inhibitor; pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium perfluorooctanesulfonate 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate RL: TEM (Technical or engineered material use); USES (Uses) (photoacid generator ; pos.-working photoresist comps. with high sensitivity and reduced standing wave effect)				
IT	410537-72-3 410537-74-5 417709-53-6 417709-54-7 417709-55-8 417709-56-9				

425660-61-3 425660-63-5 425660-67-9
 425660-70-4 425660-74-8 425660-78-2
 425660-81-7

RL: TEM (Technical or engineered material use); USES (Uses)
 (pos.-working **photoresist compns.** with high
 sensitivity and reduced standing wave effect)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

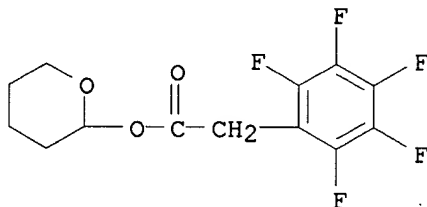
RL: TEM (Technical or engineered material use); USES (Uses)
 (**surfactant; pos.-working photoresist**
compns. with high sensitivity and reduced standing wave effect)

IT 410537-72-3 410537-74-5 417709-53-6
 417709-54-7 417709-55-8 417709-56-9
 425660-61-3 425660-63-5 425660-67-9
 425660-70-4 425660-74-8 425660-78-2
 425660-81-7

RL: TEM (Technical or engineered material use); USES (Uses)
 (pos.-working **photoresist compns.** with high
 sensitivity and reduced standing wave effect)

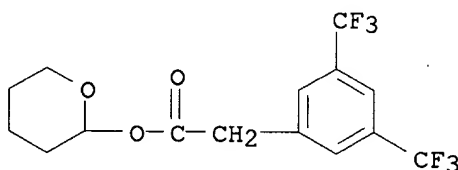
RN 410537-72-3 HCAPLUS

CN Benzeneacetic acid, 2,3,4,5,6-pentafluoro-, tetrahydro-2H-pyran-2-yl ester
 (9CI) (CA INDEX NAME)



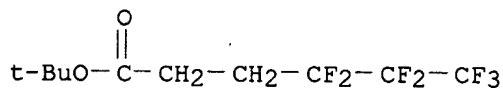
RN 410537-74-5 HCAPLUS

CN Benzeneacetic acid, 3,5-bis(trifluoromethyl)-, tetrahydro-2H-pyran-2-yl
 ester (9CI) (CA INDEX NAME)



RN 417709-53-6 HCAPLUS

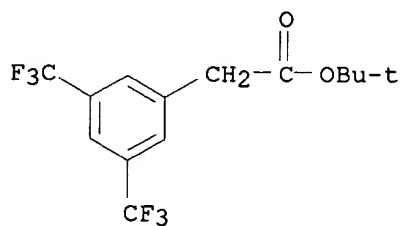
CN Hexanoic acid, 4,4,5,5,6,6,6-heptafluoro-, 1,1-dimethylethyl ester (9CI)
 (CA INDEX NAME)



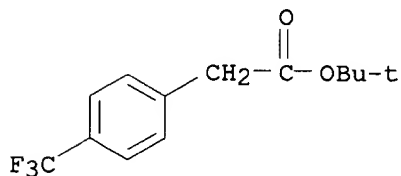
RN 417709-54-7 HCAPLUS

CN Benzeneacetic acid, 3,5-bis(trifluoromethyl)-, 1,1-dimethylethyl ester

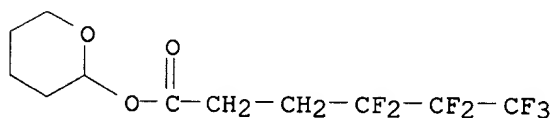
(9CI) (CA INDEX NAME)



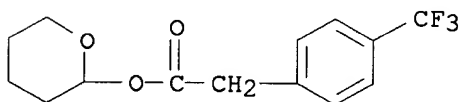
RN 417709-55-8 HCAPLUS

CN Benzeneacetic acid, 4-(trifluoromethyl)-, 1,1-dimethylethyl ester (9CI)
(CA INDEX NAME)

RN 417709-56-9 HCAPLUS

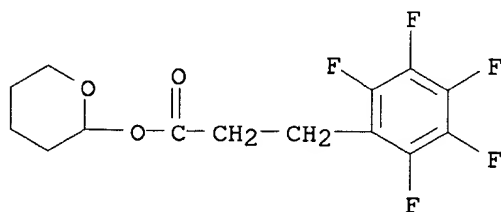
CN Hexanoic acid, 4,4,5,5,6,6,6-heptafluoro-, tetrahydro-2H-pyran-2-yl ester
(9CI) (CA INDEX NAME)

RN 425660-61-3 HCAPLUS

CN Benzeneacetic acid, 4-(trifluoromethyl)-, tetrahydro-2H-pyran-2-yl ester
(9CI) (CA INDEX NAME)

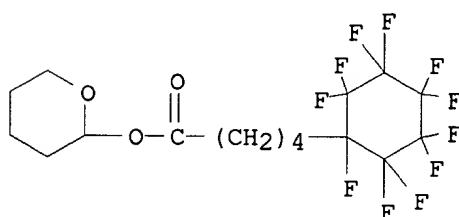
RN 425660-63-5 HCAPLUS

CN Benzenepropanoic acid, 2,3,4,5,6-pentafluoro-, tetrahydro-2H-pyran-2-yl
ester (9CI) (CA INDEX NAME)



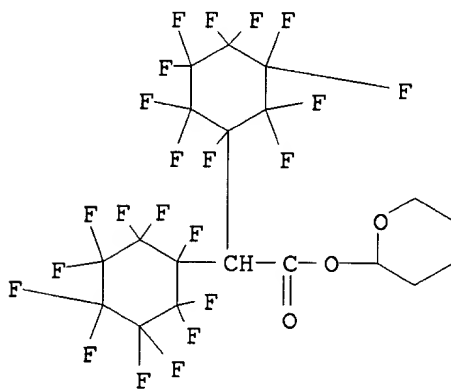
RN 425660-67-9 HCAPLUS

CN Cyclohexanepentanoic acid, 1,2,2,3,3,4,4,5,5,6,6-undecafluoro-, tetrahydro-2H-pyran-2-yl ester (9CI) (CA INDEX NAME)



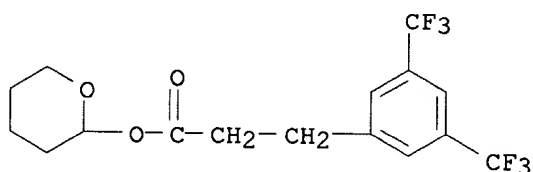
RN 425660-70-4 HCAPLUS

CN Cyclohexaneacetic acid, 1,2,2,3,3,4,4,5,5,6,6-undecafluoro-.alpha.-(undecafluorocyclohexyl)-, tetrahydro-2H-pyran-2-yl ester (9CI) (CA INDEX NAME)

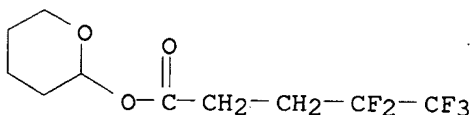


RN 425660-74-8 HCAPLUS

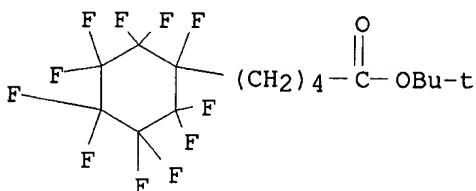
CN Benzenepropanoic acid, 3,5-bis(trifluoromethyl)-, tetrahydro-2H-pyran-2-yl ester (9CI) (CA INDEX NAME)



RN 425660-78-2 HCAPLUS

CN Pentanoic acid, 4,4,5,5,5-pentafluoro-, tetrahydro-2H-pyran-2-yl ester
(9CI) (CA INDEX NAME)

RN 425660-81-7 HCAPLUS

CN Cyclohexanepentanoic acid, 1,2,2,3,3,4,4,5,5,6,6,6-undecafluoro-,
1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L38 ANSWER 23 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:349275 HCAPLUS

DN 136:377476

TI Chemically amplified positive-working **photoresist compositions** for excimer laser development with high sensitivity and resolution

IN Fujimori, Toru; Tan, Shiro; Nakao, Hajime

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08F220-10; C08K005-00; C08L101-02; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002131910	A2	20020509	JP 2000-325915	20001025
PRAI	JP 2000-325915		20001025		

AB The **comps.** comprise (A) **photoacid generators**

, (B) resins having alicyclic hydrocarbon structures, which are decompd.

- by acids to increase their alkali-soly., and (C) RWCO2B (R = alkyl, alicyclic ring-contg. group; W = divalent org. group; B = acid-decomposable group). The **photoresists** are useful for micro-photofabrication by far UV radiation at .ltoreq.250 nm wavelength.
- ST pos **photoresist** excimer laser sensitivity microphotofabrication;
chem amplification **photoresist** ArF laser resoln
- IT Positive **photoresists**
(chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT **Surfactants**
(**fluorosurfactants**; chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT 16537-07-8P 177080-68-1P 181224-88-4P 195000-67-0P 195154-83-7P
216308-45-1P 288303-55-9P 297156-40-2P 304441-22-3P 307976-24-5P
324770-96-9P 357413-69-5P 357413-70-8P 357413-71-9P 410540-02-2P
410540-10-2P 410540-12-4P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT 110-87-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT 122752-67-4, tert-Butyl cholate
RL: CAT (Catalyst use); USES (Uses)
(dissolving inhibitor; chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT 66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium perfluorooctanesulfonate 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate
RL: CAT (Catalyst use); USES (Uses)
(**photoacid generator**; chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT 484-47-9, 2,4,5-Triphenylimidazole 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene
RL: TEM (Technical or engineered material use); USES (Uses)
(**resist** contg.; chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; chem. amplified pos. **photoresists** for ArF excimer laser development with high sensitivity and resoln.)
- L38 ANSWER 24 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:347848 HCAPLUS
DN 136:361828
TI Positive-working **photoresist compositions** containing norbornene-acrylate copolymers
IN Sato, Kenichiro; Nakao, Hajime
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 80 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

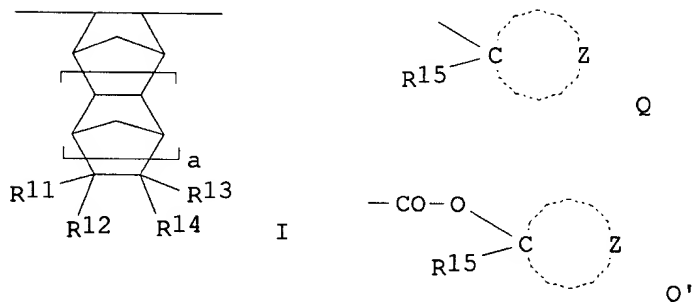
IC ICM G03F007-039

ICS C08F232-08; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002131917	A2	20020509	JP 2001-169802	20010605
PRAI	JP 2000-174037	A	20000609		
	JP 2000-186431	A	20000621		
	JP 2000-206812	A	20000707		
	JP 2000-206890	A	20000707		
	JP 2000-211414	A	20000712		
	JP 2000-215441	A	20000717		
	JP 2000-248658	A	20000818		
OS	MARPAT 136:361828				
GI					



AB The **comps.**, which show wide defocus latitude, reduced line edge roughness, and high resoln., contain (A) resin which increases its soly. in alk. developers upon reaction of acids and contain (a) a repeating unit I [R11-R14 = H, (un)substituted alkyl; a = 0, 1] and (b) CH₂CR₁(ACO₂W) (R₁ = H, Me; A = direct bond, alkylene, cycloalkylene, O, ether group, thioether group, O, ester group; W = Q, CR₁₆R₁₇R₁₈, CHR₂₀OR₁₉, CR₂₃R₂₅CR₂₁:CR₂₂R₂₄, R₂₆R₂₉CHR₂₇COR₂₈, Q₁; R₁₅ = Me, Et, Pr, CHMe₂, Bu, CH₂CMe₂, CHMeEt; Z = at. group required to form an alicyclic ring; R₁₆-R₂₀ = C₁-4 linear or branched alkyl, alicyclyl; .gtoreq.1 of R₁₆-R₁₈, R₁₉ or R₂₀ = alicyclyl; R₂₁-R₂₅ = H, C₁-4 linear or branched alkyl, alicyclyl; .gtoreq.1 R₂₁-R₂₅ = alicyclyl; R₂₃ or R₂₅ = C₁-4 linear or branched alkyl, alicyclyl; R₂₆-R₂₉ = C₁-4 linear or branched alkyl, alicyclyl; .gtoreq.1 of R₂₆-R₂₉ = alicyclyl), (B) comps. which generate acids upon irradiation of actinic ray or radiation, and optionally (C₁) R[X(CR₅₁CR₅₂)qCO₂R₁]_n (X = O, S, NR₅₃, direct bond, R₅₃ = H, alkyl; CO₂R₁ = acid-decomposable group; R = n-valent bridged hydrocarbon ring, satd. cyclic hydrocarbon ring, naphthalene ring; n = 1-4; q = 0-10), (C₂) naphthalene derivs. II (R₆₀ = alkyl, halo; OR₆₁ = acid-decomposable group; m = 0-4; p = 1-4), or (C₃) steroid comps. which contain .gtoreq.2 substituents having .gtoreq.1 carboxyl group protected with acid-labile group. The acid generators may

be imide sulfonate compds. or diazodisulfonic acids (Markush structures are given) and optionally sulfonium salts. (C1)-(C3) work as dissoln. inhibitors and the **compns.** give high-resoln. contact hole and trench patterns in fabrication of semiconductor devices.

ST pos **photoresist** norbornene acrylate copolymer **photoacid generator**; dissoln inhibitor butyl deoxycholate glutaryl chloride copolymer

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(KP 341; pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT **Surfactants**

(fluorine-contg. or silicones; pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT Positive **photoresists**

(pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT Ketones, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(solvents; pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT 24556-20-5 115298-62-9 115311-03-0 130782-09-1 172615-57-5
207512-00-3 244634-41-1 343223-56-3 421555-75-1 421555-76-2
421555-77-3 421555-78-4 421555-79-5 421555-80-8 421555-81-9
421555-82-0 421555-83-1 421555-84-2

RL: TEM (Technical or engineered material use); USES (Uses)

(dissoln. inhibitor; pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT 321994-64-3P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(oligomeric, dissoln. inhibitor; pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT 14159-45-6 28343-24-0 66003-78-9 81416-37-7 116808-67-4
138529-81-4 138529-84-7 138529-87-0 144089-15-6 144317-44-2
145612-66-4 153698-46-5 153698-67-0 157089-26-4 171417-91-7
177786-96-8 177786-98-0 179419-32-0 211517-08-7 241806-75-7
252937-66-9 258341-98-9 258341-99-0 258342-00-6 258872-05-8
260061-58-3 270563-93-4 284474-28-8 301525-08-6 307976-40-5
312386-77-9 324771-13-3 338445-26-4 338445-30-0 341979-02-0
343629-55-0 350249-87-5 391232-40-9 421555-68-2 421555-69-3
421555-70-6 421555-71-7 421555-72-8 421555-73-9 421555-74-0

RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)

(**photoacid generator**; pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT 249562-07-0P 249562-17-2P, Maleic anhydride-2-methyl-2-adamantyl acrylate-norbornene copolymer 260448-02-0P, tert-Butyl acrylate-maleic anhydride-norbornene copolymer 351867-96-4P 421555-57-9P
421555-59-1P 421555-60-4P 421555-61-5P 421555-62-6P 421555-63-7P
421555-64-8P 421555-65-9P 421555-66-0P 421555-67-1P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working **photoresist compns.** contg. norbornene-acrylate copolymers)

IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3 6674-22-2, DBU
137462-24-9, Megafac F176 216679-67-3, Megafac R08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(pos.-working **photoresist comps.** contg.
norbornene-acrylate copolymers)

IT 96-48-0, .gamma.-Butyrolactone 96-49-1, Ethylene carbonate 97-64-3,
Ethyl lactate 108-32-7, Propylene carbonate 110-43-0, 2-Heptanone
123-86-4, Butyl acetate 763-69-9 1320-67-8, Propylene glycol
monomethyl ether 84540-57-8, Propylene glycol monomethyl ether acetate
98516-33-7, Propylene glycol monomethyl ether propionate
RL: TEM (Technical or engineered material use); USES (Uses)

(solvent; pos.-working **photoresist comps.** contg.
norbornene-acrylate copolymers)

L38 ANSWER 25 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:345226 HCAPLUS

DN 136:361820

TI Chemically amplified positive photosensitive polymer **compositions**
for **resists** with high resolution

IN Kawabe, Yasumasa

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08K005-053; C08K005-16; C08K005-29; C08L033-04;
C08L045-00; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002131913	A2	20020509	JP 2000-327357	20001026

PRAI JP 2000-327357 20001026

OS MARPAT 136:361820

AB The **comps.**, useful for semiconductor device fabrication,
printed circuit board manuf., etc., comprise (A) polymers having alicyclic
hydrocarbon blocks, which become alkali-sol. by acid decompn., (B)
radiation-sensitive acid generators, (C) XCR1OHCR2OHY or X(C:NOH)2Y (R1,
R2 = H, C1-4-alkyl, Ph; R3, R4 = halo, C1-4-alkyl, trifluoromethyl; X =
C6H5-1R31; Y = C6H5-mR4m; l, m = 0-3), and (D) fluoro and/or silicone
surfactants. The **resist comps.** are sensitive
to ArF excimer laser beams.

ST pos **photoresist** diphenylethylene glycol excimer laser; chem
amplification ArF laser **resist** resolu

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(KP 341, **surfactant**; excimer laser-sensitive chem. amplified
pos. **photoresists** with high resolu.)

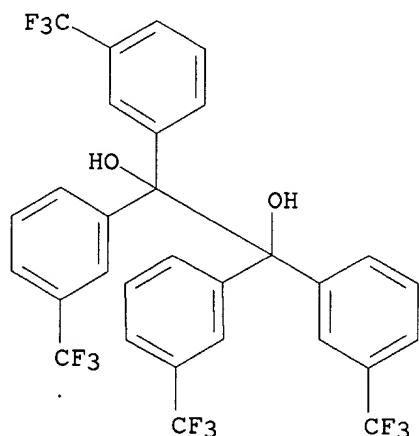
IT Positive **photoresists**

(excimer laser-sensitive chem. amplified pos. **photoresists**
with high resolu.)

IT **Surfactants**

(**fluorosurfactants**; excimer laser-sensitive chem. amplified

- pos. **photoresists** with high resoln.)
- IT 100-97-0, Hexamethylenetetramine, uses 3001-72-7, 1.5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2, 1.8-Diazabicyclo[5.4.0]-7-undecene
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(acid scavenger; excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT 122752-67-4P, tert-Butyl cholate
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-sensitive, increasing alkali-soly. of polymers with; excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT 195000-67-0P 249562-07-0P, Maleic anhydride-2-methyl-2-adamantyl methacrylate-2-norbornene copolymer 258879-87-7P, 3-Hydroxy-1-adamantyl methacrylate-.alpha.-methacryloxy-.gamma.-butyrolactone-2-methyl-2-adamantyl methacrylate copolymer 260448-02-0P, tert-Butyl acrylate-maleic anhydride-norbornene copolymer 301525-10-0P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT 464-72-2 1636-34-6 **3870-47-1** 23873-81-6
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT 81-25-4, Cholic acid 3999-70-0, Potassium butoxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT 66003-78-9, Triphenylsulfonium triflate 144317-44-2, Triphenylsulfoniumnonafluorobutane sulfonate
RL: CAT (Catalyst use); USES (Uses)
(**photoacid generator**; excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- IT **3870-47-1**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(excimer laser-sensitive chem. amplified pos. **photoresists** with high resoln.)
- RN 3870-47-1 HCAPLUS
CN 1,2-Ethanediol, 1,1,2,2-tetrakis[3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



L38 ANSWER 26 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:345222 HCAPLUS

DN 136:377471

TI Positively working radiation-sensitive **resist composition** with improved coatability

IN Kanna, Shinichi; Kodama, Kunihiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 63 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS G03F007-004; C08K005-00; C08L101-12; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002131898	A2	20020509	JP 2000-327424	20001026
PRAI	JP 2000-327424		20001026		
OS	MARPAT 136:377471				

AB The **compn.** contains (A) polymers increasing soly. in alkali developers by decompn. with acids, (B) acid generator by irradi. of actinic ray, (C) org. basic compds., (D) solvents, and (E) 50-5000 ppm **surfactants**, preferably having **fluoroalkyl** group in the mol., to get discolored by irradi. of actinic ray. The **compn.** prevents generation of standing wave.

ST pos radiation sensitive resist coatability standing wave prevention; **fluoroalkyl** discolorable **surfactant** radiation sensitive **resist**

IT Positive **photoresists**

Surfactants

(pos.-working radiation-sensitive **resist compn.**

contg. **fluoroalkyl**-substituted discolorable

surfactant with improved coatability)

IT 13891-29-7, Triphenylsulfonium p-toluenesulfonate 138529-81-4,

Bis(cyclohexylsulfonyl)diazomethane 197447-16-8 422508-79-0

RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses)

(photoacid generator; pos.-working
radiation-sensitive **resist compn.** contg.

fluoroalkyl-substituted discolorable **surfactant** with
improved coatability)

IT 109-53-5DP, Isobutyl vinyl ether, reaction products with Bu
acrylate-hydroxystyrene copolymer 926-02-3DP, tert-Butyl vinyl ether,
reaction products with hydroxystyrene polymer and cyclohexaneethanol
4442-79-9DP, Cyclohexaneethanol, reaction products with hydroxystyrene
polymer and Bu vinyl ether 24979-70-2DP, VP 8000, reaction products with
Bu vinyl ether and cyclohexaneethanol 121273-79-8P 129674-22-2P,
p-(tert-Butoxycarbonyloxy)styrene-p-hydroxystyrene copolymer
158593-28-3P, p-(1-Ethoxyethoxy)styrene-p-hydroxystyrene copolymer
159296-87-4P, tert-Butyl acrylate-p-vinylphenol copolymer 199432-82-1P,
p-Hydroxystyrene-p-(1-isobutoxyethoxy)styrene copolymer 200808-68-0P,
tert-Butyl acrylate-p-hydroxystyrene-styrene copolymer 288620-15-5P,
p-(1-Benzyloxyethoxy)styrene-p-hydroxystyrene copolymer 325143-38-2P
365971-61-5P 365971-64-8P 365971-70-6P 365971-71-7P 365971-72-8P
376600-58-7P 387382-49-2P 422508-57-4P 422508-61-0P 422508-62-1P
422508-64-3P 422508-65-4P 422508-66-5P 422508-67-6P 422508-71-2P
422508-72-3P 422508-74-5P 422508-76-7P 422508-77-8P 422508-78-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos.-working radiation-sensitive **resist compn.**
contg. **fluoroalkyl**-substituted discolorable
surfactant with improved coatability)

IT 524-38-9, N-Hydroxyphthalimide 3744-08-9, Triphenylsulfonium iodide
141784-10-3, 2-Nitro-6-trifluoromethylbenzyl alcohol 365971-60-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(pos.-working radiation-sensitive **resist compn.**
contg. **fluoroalkyl**-substituted discolorable
surfactant with improved coatability)

IT 102-82-9, Tributylamine 484-47-9, 2,4,5-Triphenylimidazole 3001-72-7,
1,5-Diazabicyclo[4.3.0]-5-nonene 312386-77-9 422508-59-6 422508-63-2
422508-69-8

RL: TEM (Technical or engineered material use); USES (Uses)

(pos.-working radiation-sensitive **resist compn.**
contg. **fluoroalkyl**-substituted discolorable
surfactant with improved coatability)

L38 ANSWER 27 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:265038 HCAPLUS

DN 136:311310

TI Low-temperature-curable acrylic coating compositions with good storage
stability and adhesion to various substrates

IN Kageishi, Kazuji; Osanai, Yoshitaka; Ando, Yumi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 19 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D133-14

ICS C08F265-00; C09D005-02; C09D143-00; C09D151-06; C09D163-00;
C09D175-04; C09D183-04

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002105388	A2	20020410	JP 2000-295833	20000928

PRAI JP 2000-295833

20000928

- AB Title compns. comprise (A) acrylic polymers obtained from hydroxy-contg. acrylic polymers with no. av. mol. wt. 500-80,000 derived from OH-contg. unsatd. monomers and epoxy group-contg. acrylic polymers with no. av. mol. wt. 500-80,000 derived from epoxy-contg. unsatd. monomers, (B) curing agents, and nonionic surfactants, wherein the polymers (A) have epoxy-contg. unsatd. monomer content <5000 ppm. Thus, 100 parts polymer prep'd. from 20/80 Me methacrylate-2-hydroxyethyl methacrylate copolymer and Bu acrylate-Bu methacrylate-Cyclomer A 200-Me methacrylate copolymer was mixed with Surfion KH 40 (ethoxylated perfluoroalkyl alc. surfactant) 5000 ppm, Alumichelate AW [aluminum tri(acetyl acetate)] 3 and acetylacetone 6 parts, coated on substrates and cured, showing good adhesion to various substrates (such as glass, ABS, steel and Al plates), curability and storage stability at 23-40.degree..
- ST acrylic coating low temp curability; epoxy hydroxy contg acrylic coating adhesion; nonionic surfactant acrylic coating storage stability
- IT Polysiloxanes, uses
Polyurethanes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic-epoxy; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Epoxy resins, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic-polysiloxane-; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Epoxy resins, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic-polyurethane-; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Aminoplasts
Polysiloxanes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Perfluoro compounds
RL: MOA (Modifier or additive use); USES (Uses)
(alkynyl alcs., ethoxylated, surfactant; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(alkynyl, perfluoro, ethoxylated, surfactant; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Cement
(asbestos; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Reinforced plastics
RL: MSC (Miscellaneous)
(carbon fiber-reinforced; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Surfactants
(fluorosurfactants; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)

- IT Coating materials
(low-temp.-curable; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Surfactants
(nonionic; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Coating materials
(storage-stable; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Glass, miscellaneous
Polycarbonates, miscellaneous
RL: MSC (Miscellaneous)
(substrate; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT Aluminum alloy, base
Magnesium alloy, base
RL: MSC (Miscellaneous)
(substrate; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT 26355-01-1P, 2-Hydroxyethyl methacrylate-methyl methacrylate copolymer
38437-12-6P, Glycidyl methacrylate-2-hydroxyethyl methacrylate-methyl methacrylate copolymer 99038-07-0P 124348-85-2P 146241-49-8P
409364-99-4P 409365-00-0P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT 253874-55-4P, Butyl acrylate-butyl methacrylate-glycidyl methacrylate-2-hydroxyethyl methacrylate-methyl methacrylate-SH 6040 copolymer 318988-59-9P, Butyl acrylate-butyl methacrylate-Cyclomer A 200-2-hydroxyethyl methacrylate-methyl methacrylate copolymer
409364-96-1P 409364-97-2P 409364-98-3P 409365-01-1P 410076-37-8P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT 9003-07-0, Polypropylene 9003-56-9, ABS 12597-69-2, Steel, miscellaneous
RL: MSC (Miscellaneous)
(substrate; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT 9016-45-9, Newcol 564 251907-30-9, Surflon KH 40 410076-01-6, Megafac F 471
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- IT 251907-30-9, Surflon KH 40
RL: MOA (Modifier or additive use); USES (Uses)
(surfactant; low-temp.-curable acrylic coating compns. with good storage stability and adhesion to various substrates)
- RN 251907-30-9 HCAPLUS
CN Surflon KH 40 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 28 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:265037 HCAPLUS
DN 136:311309

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

TI Storage-stable resin compositions for coatings with good resistance to soiling and weather
 IN Kageishi, Ichiji; Osanai, Yoshitaka; Ando, Yumi
 PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D133-00

ICS C09D005-00; C09D151-06; C09D161-28; C09D163-00; C09D175-00

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002105384	A2	20020410	JP 2000-295832	20000928
PRAI	JP 2000-295832		20000928		

AB The compns. contain (A) acrylic resins having no.-av. mol. wt. (Mn) 500-80,000 and obtained by copolymn. of alkoxysilyl group-contg. unsatd. compds. (I) and acrylic resins having Mn 500-80,000 and obtained by copolymn. of epoxy group-contg. unsatd. compds. (II), (B) curing agents and (C) nonionic surfactants where the content of II in A is at <5000 ppm. Thus, mixing 20 parts a Me methacrylate-SZ 6030 (.gamma.-methacryloxypropyltrimethoxysilane) (80:20) copolymer (Mn 8000, acid no. 13.7 mg-KOH/g; solids content 50%) with 80 parts a Bu acrylate-Bu methacrylate-Cyclomer A 200 (epoxycyclohexylmethyl acrylate)-Me methacrylate 20:20:20:40 copolymer (Mn 18,000; epoxy group-contg. equiv. wt. 910; solids content 50%), adding Surflon KH 40 (surfactant; 5000 ppm) to the resulting mixt., and mixing with 3 phr Aluminum Chelate AW (tris(acetoacetato)aluminum) and 6 phr Acac gave a coating compn. with II content 10 ppm.

ST alkoxysilyl acrylic polymer storage stable coating epoxy acrylic resin; soiling weather resistance coating alkoxysilyl epoxy acrylic resin compn

IT Epoxy resins, uses
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (acrylic; storage-stable resin compns. for coatings with good resistance to soiling and weather)

IT Coating materials
 (antisoiling; storage-stable resin compns. for coatings with good resistance to soiling and weather)

IT Aminoplasts
 RL: MOA (Modifier or additive use); USES (Uses)
 (curing agent; storage-stable resin compns. for coatings with good resistance to soiling and weather)

IT Surfactants
 (nonionic; storage-stable resin compns. for coatings with good resistance to soiling and weather)

IT Coating materials
 (weather-resistant; storage-stable resin compns. for coatings with good resistance to soiling and weather)

IT 2530-83-8, SH-6040 9003-08-1, Cymel 285 28574-90-5, HMDI trimer 127464-53-3, Sumidur N 3500
 RL: MOA (Modifier or additive use); USES (Uses)
 (curing agent; storage-stable resin compns. for coatings with good resistance to soiling and weather)

IT 123-54-6, Acetylacetone, uses 19022-77-6, Aluminum Chelate AW
 RL: CAT (Catalyst use); USES (Uses)
 (curing catalyst; storage-stable resin compns. for coatings with good

resistance to soiling and weather)

IT 9016-45-9, Newcol 564 **251907-30-9**, Surflon KH 40 410076-01-6,
Megafac F 471
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(nonionic surfactant; storage-stable resin compns. for coatings with
good resistance to soiling and weather)

IT 146241-49-8P, Butyl acrylate-butyl methacrylate-Cyclomer A 200-methyl
methacrylate copolymer 146876-44-0P, Methacrylic acid;.gamma.-
methacryloxypropyltrimethoxysilane copolymer 318988-59-9P, Butyl
acrylate;butyl methacrylate;Cyclomer A 200;2-hydroxyethyl
methacrylate;methyl methacrylate copolymer 409362-21-6P, Butyl
acrylate;butyl methacrylate;Cyclomer A 200;methacrylic acid;2-hydroxyethyl
methacrylate;.gamma.-methacryloxypropyltrimethoxysilane;methyl
methacrylate;perfluorooctyl methacrylate graft copolymer 409362-23-8P,
Butyl acrylate;butyl methacrylate;glycidyl methacrylate;2-hydroxyethyl
methacrylate;methacrylic acid;.gamma.-methacryloxypropyltrimethoxysilane;m
ethyl methacrylate graft copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); TEM (Technical or engineered material use); PREP
(Preparation); USES (Uses)
(storage-stable resin compns. for coatings with good resistance to
soiling and weather)

IT **251907-30-9**, Surflon KH 40
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(nonionic surfactant; storage-stable resin compns. for coatings with
good resistance to soiling and weather)

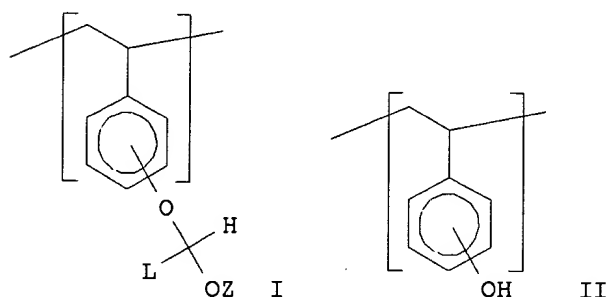
RN 251907-30-9 HCAPLUS
CN Surflon KH 40 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 29 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:176284 HCAPLUS
DN 136:239101
TI Positive-working **photoresist compositions** containing
carboxy-terminated fluorine-containing polyethers
IN Kawabe, Yasumasa; Kanna, Shinichi
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 38 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08K005-00; C08K005-095; C08K005-16; C08L025-18; G03F007-004;
H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)
Section cross-reference(s): 38

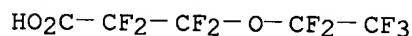
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002072482	A2	20020312	JP 2000-265558	20000901
PRAI	JP 2000-265558		20000901		
GI					

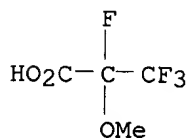


- AB The **compn.** contains (A) **photoacid generators**, (B) polymers insol. or hardly sol. in alkali but become alkali-sol. by treatment with acids, and (C) carboxylic acid derivs. having mol. wt. .1 to req. 1000 and having partial structure $(\text{CR}_2)_m\text{O}(\text{CR}_1)_n\text{mCO}_2\text{H}$ ($\text{R}_1 = \text{H}, \text{F}, \text{CF}_3$; $\text{R}_2 = \text{H}, \text{F}, \text{CF}_3, \text{OR}_3$; $\text{R}_3 = \text{C1-4 alkyl, fluoroalkyl}$; $m, n = \text{integer of 1-3}$; R_1 and/or R_2 contain F). Preferably, component B contains structural repeating units I and II ($\text{L} = \text{H}, (\text{un})\text{substituted linear, branched, or cyclic alkyl, (un)substituted aralkyl}$; $\text{Z} = (\text{un})\text{substituted linear, branched, or cyclic alkyl, (un)substituted aralkyl}$; $\text{Z} + \text{L}$ may form 5- or 6-membered ring). The **compns.** may also contain N-contg. basic compds. and fluoro- and/or Si-contg. **surfactants**. Formation of defects on development is prevented. The **compns.** are suitable in fabrication of semiconductor devices.
- ST pos **photoresist** carboxy terminated polyether **compn.**;
- IT semiconductor fabrication pos **photoresist** alk developing Polysiloxanes, uses
- RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
- (KP 341, **surfactant**; addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT Positive **photoresists**
- (addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT **Surfactants**
- (**fluorosurfactants**; addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT 484-47-9, 2,4,5-Triphenylimidazole 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene
- RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
- (addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT 24979-78-0DP, p-Acetoxystyrene homopolymer, hydrolyzed 347384-02-5DP, tert-Butylstyrene-p-tert-butoxystyrene copolymer, hydrolyzed
- RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
- (addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)

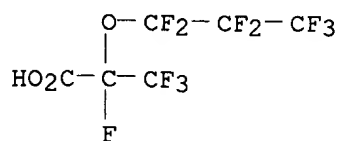
- IT 24979-70-2, Poly(p-hydroxystyrene)
 RL: TEM (Technical or engineered material use); USES (Uses)
 (addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT 66003-78-9 138529-81-4 197447-16-8
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (**photoacid generator**; addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT 377-76-4 10186-64-8 13252-13-6
 13252-14-7 267901-01-9
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (prevention of development defects with; addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT 11114-17-3, **Fluorad** FC 430 137462-24-9, Megafac **F** 176 216679-67-3, Megafac R 08
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (**surfactant**; addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- IT 377-76-4 10186-64-8 13252-13-6
 13252-14-7 267901-01-9
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (prevention of development defects with; addn. of carboxy-terminated fluorine-contg. polyethers to pos.-working **photoresist compns.** for prevention of defects in development)
- RN 377-76-4 HCAPLUS
 CN Propanoic acid, 2,2,3,3-tetrafluoro-3-(pentafluoroethoxy)- (9CI) (CA INDEX NAME)



- RN 10186-64-8 HCAPLUS
 CN Propanoic acid, 2,3,3,3-tetrafluoro-2-methoxy- (9CI) (CA INDEX NAME)

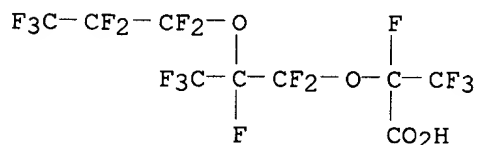


- RN 13252-13-6 HCAPLUS
 CN Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)- (9CI) (CA INDEX NAME)



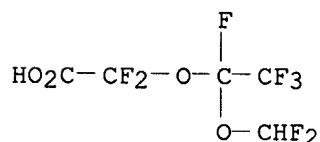
RN 13252-14-7 HCAPLUS

CN Propanoic acid, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-(heptafluoropropoxy)propoxy]- (9CI) (CA INDEX NAME)



RN 267901-01-9 HCAPLUS

CN Acetic acid, [1-(difluoromethoxy)-1,2,2,2-tetrafluoroethoxy]difluoro- (9CI) (CA INDEX NAME)



L38 ANSWER 30 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:176283 HCAPLUS

DN 136:239100

TI Positively working photoresist **composition** for suppression of development defect

IN Kawabe, Yasumasa

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08K005-09; C08K005-16; C08L101-00; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002072481	A2	20020312	JP 2000-265557	20000901
PRAI	JP 2000-265557		20000901		

AB The **compn.** comprises (A) polymer with alicyclic hydrocarbon structure which becomes alkali sol. by acid decompn., (B) acid generator sensitive to actinic ray or radiation, (C) C4-20 aliph. (di)carboxylic

acid including .gtoreq.4 F atoms per mol. and having mol. wt. .ltoreq.1000, (D) N-contg. basic compd., and (E) F- and/or Si-contg. **surfactant**. The **compn.** has high sensitivity, and defect-free resist patterns with high size accuracy, resoln., and low line edge roughness can be formed.

ST pos working photoresist development defect suppression; aliph fluorocarboxylic acid alicyclic hydrocarbon polymer pos photoresist

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(KP 341, **surfactant**; pos. working photoresist **compn**

. for formation of resist pattern without development defect)

IT Positive **photoresists**

(pos. working photoresist **compn.** for formation of resist pattern without development defect)

IT 66003-78-9, Triphenylsulfonium triflate

RL: TEM (Technical or engineered material use); USES (Uses)

(acid generator; pos. working photoresist **compn.** for formation of resist pattern without development defect)

IT 169223-75-0P, 1-Adamantyl methacrylate-tert-butyl acrylate copolymer

195143-37-4P, Acrylic acid-tert-butyl acrylate-maleic anhydride-norbornene copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. working photoresist **compn.** for formation of resist pattern without development defect)

IT **336-08-3 375-95-1 2706-90-3 3001-72-7,**

1,5-Diazabicyclo [4.3.0]-5-nonene 6674-22-2, 1.8-Diazabicyclo [5.4.0]-7-undecene **13252-13-6 403615-96-3**

RL: TEM (Technical or engineered material use); USES (Uses)

(pos. working **photoresist compn.** for formation of **resist** pattern without development defect)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: TEM (Technical or engineered material use); USES (Uses)

(**surfactant**; pos. working photoresist **compn.** for formation of resist pattern without development defect)

IT **336-08-3 375-95-1 2706-90-3 13252-13-6**

403615-96-3

RL: TEM (Technical or engineered material use); USES (Uses)

(pos. working **photoresist compn.** for formation of **resist** pattern without development defect)

RN 336-08-3 HCAPLUS

CN Hexanedioic acid, octafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C- (CF₂)₄-CO₂H

RN 375-95-1 HCAPLUS

CN Nonanoic acid, heptafluoro- (8CI, 9CI) (CA INDEX NAME)

HO₂C- (CF₂)₇-CF₃

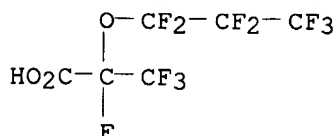
RN 2706-90-3 HCAPLUS

CN Pentanoic acid, nonafluoro- (9CI) (CA INDEX NAME)

$$\text{HO}_2\text{C}-(\text{CF}_2)_3-\text{CF}_3$$

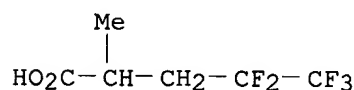
RN 13252-13-6 HCAPLUS

CN Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)- (9CI) (CA INDEX NAME)



RN 403615-96-3 HCAPLUS

CN Pentanoic acid, 4,4,5,5,5-pentafluoro-2-methyl- (9CI) (CA INDEX NAME)



L38 ANSWER 31 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:135882 HCAPLUS

DN 136:191695

TI Positive-working **photoresist compositions** free of developing defects and having high resolution and linearity

IN Fujimori, Toru; Tan, Shiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08L101-06; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002055453	A2	20020220	JP 2000-241457	20000809
PRAI	JP 2000-241457		20000809		

AB The **compns.** contain (a) an acid-dissocg. alk.-developing polymer obtained by reaction of a polymer having phenolic OH group with alkyl vinyl ether and alc. in presence of an acidic catalyst followed by further reaction with another alkyl vinyl ether, (b) a **photoacid generator**, and (c) a solvent. Optionally, the **compns.** may also contain Si-type and/or F-type **surfactants** and/or org. basic compds.

ST pos **photoresist** acetalized phenol polymer; resoln linearity pos **photoresist compn**

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(Troysol S 366, **surfactant**; pos. **photoresist**)

- compns. phenol polymers acetalized with alkyl vinyl ethers)
- IT **Surfactants**
(**fluorosurfactants**; pos. **photoresist compns**
. phenol polymers acetalized with alkyl vinyl ethers)
- IT Acetalization
Positive **photoresists**
(pos. **photoresist compns.** phenol polymers
acetalized with alkyl vinyl ethers)
- IT **Surfactants**
(silicon-contg.; pos. **photoresist compns.** phenol
polymers acetalized with alkyl vinyl ethers)
- IT 98-00-0, Furfuryl alcohol 100-51-6, Benzyl alcohol, uses 4442-79-9,
Cyclohexaneethanol
RL: NUU (Other use, unclassified); USES (Uses)
(acetalization of phenol polymers in presence of; pos.
photoresist compns. phenol polymers acetalized with
alkyl vinyl ethers)
- IT 13891-29-7 138529-81-4 197447-16-8
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generator**; pos. **photoresist**
compns. phenol polymers acetalized with alkyl vinyl ethers)
- IT 109-53-5DP, Isobutyl vinyl ether, reaction products with phenol polymers
109-92-2DP, Ethyl vinyl ether, reaction products with phenol polymers
926-02-3DP, tert-Butyl vinyl ether, reaction products with phenol polymers
24979-78-0DP, p-Acetoxystyrene homopolymer, hydrolyzed, acetalized with
tert-Bu vinyl ether and Et vinyl ether 159296-87-4DP, tert-Butyl
acrylate-p-hydroxystyrene copolymer, acetalized with tert-Bu vinyl ether
and Et vinyl ether 325790-99-6DP, p-tert-Butoxystyrene-p-tert-butyl
styrene copolymer, hydrolyzed, acetalized with tert-Bu vinyl ether and Et
vinyl ether
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(pos. **photoresist compns.** phenol polymers
acetalized with alkyl vinyl ethers)
- IT 1116-76-3, Trioctylamine 1122-58-3 3001-72-7
RL: TEM (Technical or engineered material use); USES (Uses)
(pos. **photoresist compns.** phenol polymers
acetalized with alkyl vinyl ethers)
- IT 216679-67-3, Megafac R 08
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; pos. **photoresist compns.**
phenol polymers acetalized with alkyl vinyl ethers)
- L38 ANSWER 32 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:119605 HCAPLUS
DN 136:191687
TI Positive-working **photoresist composition** containing
polymer with acetal structure
IN Fujimori, Toru; Tan, Shiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08F212-14; C08K005-00; C08K005-16; C08K013-08; C08L025-18;
G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and

Other Reprographic Processes)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002049156	A2	20020215	JP 2000-234733	20000802
PRAI	JP 2000-234733		20000802		
AB	The compn. contains (a) a polymer having repeating units polyhydroxystyrene derivs. whose soly. to alk. developer increases by the action of an acid, (b) a compd. generating an acid by light or radiation, and (c) a solvent. The compn. shows high resoln., linearity, dry etching resistance , and gives patterns without defect.				
ST	pos resist acid decomposable polymer acetal structure				
IT	Polysiloxanes, uses RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (Troysol S 366; pos. photoresist compn. contg. acid-decomposable polymer with acetal structure)				
IT	Surfactants (fluorosurfactants ; pos. photoresist compn . contg. acid-decomposable polymer with acetal structure)				
IT	Positive photoresists (pos. photoresist compn. contg. acid-decomposable polymer with acetal structure)				
IT	13891-29-7	138529-81-4	197447-16-8	RL: TEM (Technical or engineered material use); USES (Uses) (acid generator ; pos. photoresist compn. contg. acid-decomposable polymer with acetal structure)	
IT	1122-58-3	3001-72-7	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (basic compd.; pos. photoresist compn. contg. acid-decomposable polymer with acetal structure)		
IT	216679-67-3	Megafac R 08 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (fluorosurfactant ; pos. photoresist compn . contg. acid-decomposable polymer with acetal structure)			
IT	109-53-5DP, Isobutyl vinyl ether, ethers with hydroxystyrene polymer 109-92-2DP, Ethyl vinyl ether, ethers with hydroxystyrene polymer 935-04-6DP, Benzyl vinyl ether, ethers with hydroxystyrene polymer 2182-55-0DP, Cyclohexyl vinyl ether, ethers with hydroxystyrene polymer 18370-86-0DP, ethers with hydroxystyrene polymer 24979-70-2DP, Poly(p-hydroxystyrene), reaction products with vinyl ethers 103983-46-6DP, ethers with hydroxystyrene polymer 159296-87-4DP, tert-Butyl acrylate-p-hydroxystyrene copolymer, reaction products with vinyl ethers 212555-24-3DP, 4-Cyclohexylphenoxyethyl vinyl ether, ethers with hydroxystyrene polymer 309758-97-2DP, ethers with hydroxystyrene polymer 312694-56-7DP, ethers with hydroxystyrene polymer 376359-32-9DP, p-(tert-Butyl)styrene-p-hydroxystyrene copolymer, reaction products with vinyl ethers 399044-25-8DP, ethers with hydroxystyrene polymer 399044-26-9DP, ethers with hydroxystyrene polymer RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (pos. photoresist compn. contg. acid-decomposable polymer with acetal structure)				

L38 ANSWER 33 OF 77 HCAPLUS COPYRIGHT 2003 ACS

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

AN 2002:119600 HCAPLUS
 DN 136:191683
 TI Negatively working electron-beam or x-ray **resist composition**
 IN Aogo, Toshiaki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-038
 ICS C08F002-44; C08F291-00; G03F007-004; G03F007-027; G03F007-029;
 G03F007-033; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002049150	A2	20020215	JP 2000-235915	20000803
PRAI	JP 2000-235915		20000803		

AB The **compn.** contains (A) acid and/or radical generators by
 irradiation of electron beam or x-ray, (B) water-insol. and alk.-sol.
 polymers, (C) crosslinking agents, (D) compds. having .gtoreq.1 acid-
 and/or radically polymerizable unsatd. linkage in a mol., and (E) F-contg.
 and/or silicone surfactants. The **compn.** shows high sensitivity
 and gives high-resoln. **resist** images with good developability to
 be useful for fine patterning in manuf. of semiconductor devices.

ST neg electron beam x ray **resist** surfactant; semiconductor device
 fine patterning electron beam **resist**; **fluorine**
 silicone **surfactant resist** electron beam x ray

IT **Surfactants**
 (F- or silicone-contg.; neg. working electron-beam or x-ray
resist compn.)

IT Polysiloxanes, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (KP 341, **surfactant**; neg. working electron-beam or x-ray
resist compn.)

IT X-ray **resists**
 (neg. working electron-beam or x-ray **resist compn.**)

IT Electron beam **resists**
 (neg.-working; neg. working electron-beam or x-ray **resist**
compn.)

IT 270564-02-8P, Tetramethylammonium pentafluorobenzenesulfonate
 RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP
 (Preparation); USES (Uses)
 (acid generator from; neg. working electron-beam or x-ray
resist compn.)

IT 3744-08-9P, Triphenylsulfonium iodide 258342-09-5P
 RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
 RACT (Reactant or reagent)
 (acid generator from; neg. working electron-beam or x-ray
resist compn.)

IT 71-43-2, Benzene, reactions 75-59-2, Tetramethylammonium hydroxide
 832-53-1, Pentafluorobenzenesulfonyl chloride 945-51-7, Diphenyl
 sulfoxide 2049-95-8, tert-Amylbenzene 7664-93-9, Sulfuric acid,
 reactions 7758-05-6, Potassium iodate 12027-06-4, Ammonium iodide
 RL: RCT (Reactant); RACT (Reactant or reagent)

- (acid generator from; neg. working electron-beam or x-ray
resist compn.)
- IT 270563-93-4 270563-96-7 279244-39-2 279244-43-8 349647-26-3
RL: CAT (Catalyst use); USES (Uses)
(acid generator; neg. working electron-beam or x-ray **resist compn.**)
- IT 153698-46-5P, Triphenylsulfonium pentafluorobenzenesulfonate
258341-98-9P
RL: CAT (Catalyst use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(acid generator; neg. working electron-beam or x-ray **resist compn.**)
- IT 162846-57-3P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(crosslinking agent from; neg. working electron-beam or x-ray **resist compn.**)
- IT 50-00-0, Formaldehyde, reactions 110726-28-8, Trisp PA
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent from; neg. working electron-beam or x-ray **resist compn.**)
- IT 161679-94-3P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinking agent; neg. working electron-beam or x-ray **resist compn.**)
- IT 3089-11-0 32449-09-5 185502-14-1 185502-15-2 197087-74-4
RL: TEM (Technical or engineered material use); USES (Uses)
(crosslinking agent; neg. working electron-beam or x-ray **resist compn.**)
- IT 171429-59-7P 173786-80-6DP, hydrolyzed 349647-07-0P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(neg. working electron-beam or x-ray **resist compn.**)
- IT 15625-89-5, Trimethylolpropane triacrylate 17831-71-9, Tetraethylene glycol diacrylate 24979-73-5 29570-58-9, Dipentaerythritol hexaacrylate 110123-10-9 185405-14-5 349647-01-4 349647-03-6 349647-04-7 349647-05-8 349647-06-9 399034-03-8
RL: TEM (Technical or engineered material use); USES (Uses)
(neg. working electron-beam or x-ray **resist compn.**)
- IT 66003-78-9
RL: CAT (Catalyst use); USES (Uses)
(**photoacid generator**; neg. working electron-beam or x-ray **resist compn.**)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; neg. working electron-beam or x-ray **resist compn.**)

L38 ANSWER 34 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:26263 HCAPLUS
DN 136:93493
TI Radiation-sensitive **photoresist composition** containing **fluorosurfactant**
IN Nanba, Katsuhiko
PA Sumitomo Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM G03F007-004
ICS G03F007-004; C08K005-16; C08K005-41; C08K005-43; C08L083-08;
C08L101-02; G03F007-038; G03F007-039; G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002006483	A2	20020109	JP 2000-184169	20000620
	GB 2363856	A1	20020109	GB 2001-14825	20010618
	US 2002012874	A1	20020131	US 2001-882049	20010618
	DE 10129296	A1	20020307	DE 2001-10129296	20010618
PRAI	JP 2000-184169	A	20000620		
AB	The title compn. contains binder materials, and an acid-generator, wherein a fluorosurfactant is added to the compn. The compn. , which contains the fluorosurfactant, generates little faulty image during the development.				
ST	radiation sensitive photoresist compn fluoro surfactant				
IT	Surfactants (fluorosurfactants ; radiation-sensitive photoresist compn. contg. fluoro surfactant)				
IT	Photoresists (radiation-sensitive photoresist compn. contg. fluoro surfactant)				
IT	159012-32-5, Silanediol, methyl(4,4,4-trifluorobutyl)-, homopolymer RL: TEM (Technical or engineered material use); USES (Uses) (surfactant in Radiation-sensitive photoresist compn.)				

L38 ANSWER 35 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:919127 HCAPLUS

DN 136:45688

TI Release agent for etching-resistant resin **composition** and/or photoresist

IN Shiroyama, Masami

PA Mitsuwaka Junyaku Kenkyusho K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-42

ICS C09D009-00; C23F001-00

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001350277	A2	20011221	JP 2000-168597	20000606
PRAI	JP 2000-168597		20000606		
AB	The release agent comprises (a) .gtoreq.1 polyvalent alc. or a deriv. thereof 1-10%, (b) .gtoreq.1 surfactant 0.001-0.1% selected from anionic surfactants, nonionic surfactants, and fluoro-surfactants, (c) caustic alkali 5-40% , and (d) water in balance. The release agent free of a chelating agent makes discharge and a water-rinsing step easier.				
ST	release agent photoresist				
IT	Surfactants (anionic; release agent for etching-resistant resin compn.)				

and/or photoresist)

IT Surfactants
(**fluorosurfactants**; release agent for etching-resistant resin **compn.** and/or **photoresist**)

IT Surfactants
(nonionic; release agent for etching-resistant resin **compn.** and/or photoresist)

IT Parting materials
Photoresists
(release agent for etching-resistant resin **compn.** and/or photoresist)

IT 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); USES (Uses)
(release agent for etching-resistant resin **compn.** and/or photoresist)

IT 56-81-5, Glycerin, uses 57-55-6, Propylene glycol, uses 111-76-2, Ethylene glycol monobutyl ether 112-35-6, Triethylene glycol monomethyl ether 1310-73-2, Caustic Soda, uses 2795-39-3, FC 95 25155-30-0, Neogen SC
RL: TEM (Technical or engineered material use); USES (Uses)
(release agent for etching-resistant resin **compn.** and/or photoresist)

L38 ANSWER 36 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:840721 HCAPLUS

DN 135:378746

TI **Resist composition** containing surfactants and pattern formation

IN Kubota, Hiroshi; Takemura, Katsuya; Yoshihara, Takao

PA Shin-Etsu Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS C08L071-02; C08L101-00; G03F007-038; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001318459	A2	20011116	JP 2000-139537	20000512
	US 2001055727	A1	20011227	US 2001-851274	20010508
PRAI	JP 2000-139537	A	20000512		

AB The **resist compn.** contains .gtoreq.1

fluorosurfactant and .gtoreq.1 nonionic surfactant without substituent contg. fluorine or silicon. In the pattern formation, the **resist compn.** is coated on a substrate, heat-treated, exposed with high energy ray with .ltoreq.500 nm, x-ray, or electron beam through a photomask, optionally heat treated, and developed. The **compn.** shows good coating property without foaming and gives high resolu. patterns without defect.

ST **resist pattern formation fluoro surfactant;**

nonionic surfactant radiation **resist compn**

IT Polyoxyalkylenes, uses

RL: MOA (**Modifier or additive use**); TEM (Technical or engineered material use); USES (Uses)

(esters; radiation-sensitive **resist compn.** contg.

fluorosurfactant and nonionic surfactant)
IT Polyoxyalkylenes, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(ethers; radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
IT **Surfactants**
(**fluorosurfactants**; radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
IT **Surfactants**
(nonionic; radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
IT Electron beam **resists**
(radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
IT **Resists**
(radiation-sensitive; radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
IT 9005-64-5, Rheodol TW-L 106 265991-57-9, Emulgen MS 110
275364-62-0, KH 20
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
IT **275364-62-0, KH 20**
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(radiation-sensitive **resist compn. contg. fluorosurfactant and nonionic surfactant)**
RN 275364-62-0 HCAPLUS
CN KH 20 (surfactant) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 37 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:726601 HCAPLUS
DN 135:280511
TI Positive-working **photoresist compositions** showing high resolution and high sensitivity and excellent storage stability
IN Sato, Kenichiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 62 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08K005-00; C08L101-08; G03F007-004; G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2001272784	A2	20011005	JP 2000-385724	20001219
PRAI	JP 1999-363302	A	19991221		
	JP 2000-10773	A	20000119		

JP 2000-10774 A 20000119

OS MARPAT 135:280511

AB The **comps.** contain (A) **comps.** generating acid on irradiation of actinic ray or radiation, (B) polymers containing structural repeating unit CO₂CR₁R₂(CR₃R₄)_mSiR₅R₆R₇ (R₁-2 = (cyclic) alkyl; R₃-4 = H, (cyclic) alkyl; R₁ + R₂, R₃ + R₄ may form cyclic alkyl; R₅-7 = (cyclic) alkyl, aryl, trialkylsilyl(oxy); m = integer of 1-6) and increasing solubility in alk. developing agents by reaction with acids, (C) org. basic **comps.**, and (D) **gtoreq.1** of **F**-contg. **surfactants**, Si-contg. **surfactants**, and nonionic **surfactants**. Preferable structural repeating units also contained in the polymers are given in Markush. Also claimed are (1) **comps.** consisting of (A') acid-generating sulfonium salts R_{s1}S⁺ R_{s2}R_{s3} Z⁻ (R_{s1}-3 = (un)substituted alkyl or aryl; R_{s1} + R_{s2} may bond via single bond or bonding group; Z⁻ = anion) and polymers B and (2) **comps.** consisting of acid generators A, polymers B, and certain **surfactants** given in the document. The **comps.** are useful in manufacture of semiconductor devices, printed circuits, liquid crystal panels, etc.

ST pos **photoresist** alk soluble silyl containing polymer; acid generator pos **photoresist** storage stable; sulfonium salt acid generator pos **photoresist**

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(KP 341, **surfactant**; alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT Positive **photoresists**
(alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT Sulfonium compounds

RL: TEM (Technical or engineered material use); USES (Uses)
(alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT **Surfactants**

(**fluorosurfactants**; alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT **Surfactants**

(nonionic, **surfactant**; alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT **Fluoropolymers**, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT 14159-45-6P 39153-56-5P 66003-76-7P 66003-78-9P 67695-82-3P
138529-81-4P 144089-15-6P 153698-46-5P 177786-98-0P 206861-54-3P
241806-75-7P 258341-95-6P 258341-99-0P 279218-73-4P 279218-74-5P
279218-75-6P 301525-08-6P 312386-77-9P 324771-13-3P 350251-56-8P
350251-57-9P 363616-18-6P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid generator; alk.-developing silyl-containing polymer pos. **photoresists** having storage stability)

IT 263713-67-3P 363616-30-2P 363616-32-4P 363616-34-6P 363616-36-8P
363616-38-0P 363616-40-4P 363616-42-6P 363616-45-9P 363616-47-1P
363616-49-3P 363616-51-7P 363616-53-9P 363616-56-2P 363616-59-5P
363616-62-0P 363616-65-3P 363616-68-6P 363616-71-1P 363616-74-4P
363616-76-6P 363616-77-7P 363616-78-8P 363616-81-3P 363616-82-4P
363616-83-5P 363616-85-7P 363616-86-8P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(alk.-developing silyl-contg. polymer pos. **photoresists**
having storage stability)

IT 484-47-9, 2,4,5-Triphenyl imidazole 1122-58-3, 4-Dimethylamino pyridine
6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene

RL: TEM (Technical or engineered material use); USES (Uses)
(alk.-developing silyl-contg. polymer pos. **photoresists**
having storage stability)

IT 96-48-0, .gamma.-Butyrolactone 96-49-1, Ethylene carbonate 97-64-3,
Ethyl lactate 108-32-7, Propylene carbonate 110-43-0, 2-Heptanone
123-86-4, Butyl acetate 1320-67-8, Propylene glycol monomethyl ether
14272-48-1, 2-Ethoxyethyl propionate 84540-57-8, Propylene glycol
monomethyl ether acetate 98516-33-7, Propylene glycol monomethyl ether
propionate

RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; alk.-developing silyl-contg. polymer pos.
photoresists having storage stability)

IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac F176
216679-67-3, Megafac R08 364039-09-8, Troysol S 336

RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; alk.-developing silyl-contg. polymer pos.
photoresists having storage stability)

L38 ANSWER 38 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:709931 HCAPLUS

DN 135:280492

TI Photoimaging **compositions**, their films, and their cured products
with low dielectric constant and good heat **resistance**

IN Matsuo, Yuichiro; Mori, Akira

PA Nippon Kayaku Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-027

ICS G03F007-027; C08F002-44; C08F002-48; C08F299-04; C08J005-18;
G03F007-004; G03F007-028; C08L055-00

CC 74-4 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

Section cross-reference(s): 38, 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001264975	A2	20010928	JP 2000-79946	20000322

PRAI JP 2000-79946 20000322

AB Title materials, showing high pattern precision and good substrate
adhesion, comprise (A) oligomers from polybasic acid anhydrides, diamines,
and optional polyhydric alcs., (B) diluents, (C) photopolymer. initiators,
(D) powders with dielec. const. ltoreq.3.5, and optional (E) surfactants.
The powders may be surface modified. The materials are useful for solder
resists and interlayer insulators in IC fabrication.

ST dielec photoimaging **compn** heat **resistance** pattern
precision; acrylic polyamide polyester polyoxyalkylene photoimaging film;
PTFE bead contg dielec photoimaging material; surfactant contg
photopolymerizable photoimaging film; circuit board solder **resist**
photoimaging **compn**

IT Esters, uses

RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered

- material use); USES (Uses)
(aliph., **fluorinated, surfactants**; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Printed circuit boards
(copper-clad, glass-epoxy; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Heat-resistant materials
(dielec.; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Electric insulators
(heat-resistant; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Solder resists
Surfactants
(photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Photoimaging materials
(photopolymerizable; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Nitrile rubber, properties
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(piperazine group-terminated, ATBN 1300X16, polymers with pyromellitic anhydride, ester with hydroxyethyl acrylate, reacted with acrylic monomers; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Fluoropolymers, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(plasma-modified; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Polyoxyalkylenes, properties
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyester-, acrylic; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Polyesters, properties
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyamide-polyoxyalkylene-, acrylic; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT Polyamides, properties
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-polyoxyalkylene-, acrylic; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)
- IT 9003-18-3P
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(nitrile rubber, piperazine group-terminated, ATBN 1300X16, polymers

with pyromellitic anhydride, ester with hydroxyethyl acrylate, reacted with acrylic monomers; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)

IT 89-32-7DP, Pyromellitic dianhydride, polymers with piperazine-terminated nitrile rubber, ester with hydroxyethyl acrylate, and reaction products with acrylic monomers 818-61-1DP, 2-Hydroxyethyl acrylate, ester with polymers of piperazine-terminated nitrile rubber and pyromellitic anhydride and polymers with acrylic monomers 26570-48-9DP, Kayarad PEG 400DA, reaction products with acrylate-terminated polymers 93294-97-4DP, Kayarad DPCA 60, reaction products with acrylate-terminated polymers 362661-92-5DP, reaction products with acrylate-terminated polymers of pyromellitic anhydride and nitrile rubber 362661-93-6P 362661-94-7P 362661-95-8P

RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)

IT 9002-88-4, Flo-beads LE 1080 9010-77-9, Flo-beads EA 209

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)

IT 10287-53-3, Kayacure EPA 82799-44-8, Kayacure DETX-S

RL: CAT (Catalyst use); USES (Uses)

(photopolymn. initiators; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)

IT 9002-84-0, Polytetrafluoroethylene

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(plasma-modified; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)

IT 151-21-3, Lauryl sulfate sodium salt, uses 1338-39-2, Sorbitan monolaurate

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(**surfactants**; photoimaging **compsn.**, their films, and their cured products with low dielec. const. and good heat **resistance**)

L38 ANSWER 39 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:632162 HCAPLUS

DN 135:218722

TI Positive-working **photoresist composition** containing acetylene alcohol derivative

IN Kodama, Kunihiro; Sato, Kenichiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 39 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08K005-05; C08K005-16; C08L101-12; G03F007-004; G03F007-032; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001235867	A2	20010831	JP 2000-47907	20000224
PRAI	JP 2000-47907		20000224		

AB The **photoresist compn.** comprises (A) a compd. for generating an acid by irradiation of actinic ray or radiation, (B) a resin having monocyclic or polycyclic aliph. hydrocarbon structure and decomposed by an acid to increase solubility in an alk. developer, and (C) an acetylene alc. deriv. Alternatively, the **compn.** comprises (A), (C), (D) a compd. having an acid-decomposable group and showing increased dissolution rate by acid effect in an alk. developer for inhibiting dissolution of a low-mol. compd. having mol. wt. ≤ 3000 , and (E) a water-insol. and alkali developer-sol. resin. Optionally, the **compn.** comprises a N-contg. basic compd. and/or a F-type and/or silicone-type surfactant. The **compn.** provides high sensitivity in ArF excimer laser lithog., good developability with suppressed defects, resolution, and pattern profile.

ST pos working **photoresist compn** acetylenic alc deriv

IT Positive **photoresists**
Semiconductor device fabrication

Surfactants
(pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**, KP 341, Troysol S 366; pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT 9014-85-1
RL: MOA (Modifier or additive use); USES (Uses)
(Surfynol 440, Surfynol 465; pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT 144089-15-6, Triphenylsulfonium perfluorooctane sulfonate 194999-85-4,
Bis(4-tert-butylphenyl)iodonium perfluorobutanesulfonate
RL: TEM (Technical or engineered material use); USES (Uses)
(acid **generator**; pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT 177080-68-1P, 2-Methyl-2-adamantane methacrylate-mevalonic lactone methacrylate copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-decomposable resin; pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT 195000-67-0 195154-83-7 216308-45-1, Methacrylic acid-2-methyl-2-adamantane methacrylate-mevalonic lactone methacrylate copolymer
250378-10-0 288303-55-9 297156-40-2 304441-22-3 324770-96-9
357413-69-5 357413-70-8 357413-71-9
RL: TEM (Technical or engineered material use); USES (Uses)
(acid-decomposable resin; pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT 122752-67-4, Cholic acid tert-butyl ester
RL: TEM (Technical or engineered material use); USES (Uses)
(dissoln. regulator; pos.-working **photoresist compn.** contg. acetylene alc. deriv.)

IT 66003-78-9, Triphenylsulfonium triflate 144317-44-2, Triphenylsulfonium perfluorobutanesulfonate
RL: TEM (Technical or engineered material use); USES (Uses)

(**photoacid generator**; pos.-working
photoresist compn. contg. acetylene alc. deriv.)
IT 126-86-3, Surfynol 104 58968-73-3, Surfynol PC 357426-77-8, Surfynol E
1004
RL: MOA (Modifier or additive use); USES (Uses)
(pos.-working **photoresist compn.** contg. acetylene
alc. deriv.)
IT 484-47-9D, 2,4,5-Triphenylimidazole, amine compd. 3001-72-7D,
1,5-Diazabicyclo[4.3.0]-5-nonene, amine compd. 24544-04-5D,
2,6-Diisopropylaniline, amine compd.
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist compn.** contg. acetylene
alc. deriv.)
IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; pos.-working **photoresist compn**
. contg. acetylene alc. deriv.)

L38 ANSWER 40 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:632161 HCAPLUS

DN 135:218721

TI Positive-working **photoresist composition** containing
dialkylcarboxylic amide

IN Kodama, Kunihiro; Sato, Kenichiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08K005-00; C08K005-20; C08L101-00; G03F007-004; G03F007-032;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001235866	A2	20010831	JP 2000-47815	20000224
PRAI	JP 2000-47815		20000224		

AB The **photoresist compn.** comprises (A) a compd. for
generating an acid by irradiation of actinic ray or radiation, (B) a resin
having monocyclic or polycyclic aliph. hydrocarbon structure and decompd.
by an acid to increase soly. in an alk. developer, and (C)
N,N-dialkylcarboxylic amide. Alternatively, the **compn.**
comprises (A), (C), (D) a compd. having an acid-decomposable group and
showing increased dissoln. rate by acid effect in an alk. developer for
inhibiting dissoln. of a low-mol. compd. having mol. wt. ≤ 3000 , and
(E) a water-insol. and alkali developer-sol. resin. Optionally, the
compn. comprises a N-contg. basic compd. and/or a F-type and/or
silicone-type surfactant. The **compn.** provides high sensitivity
in ArF excimer laser lithog., good developability with suppressed defects,
resoln., and pattern profile.

ST pos working **photoresist compn** dialkylcarboxylic amide

IT Positive **photoresists**

Semiconductor device fabrication

Surfactants

(pos.-working **photoresist compn.** contg.)

- dialkylcarboxylic amide)
- IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; pos.-working **photoresist compn**
. contg. dialkylcarboxylic amide)
- IT 177080-68-1P, 2-Methyl-2-adamantane methacrylate-mevalonic lactone
methacrylate copolymer
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(acid-decomposable resin; pos.-working **photoresist
compn.** contg. dialkylcarboxylic amide)
- IT 195000-67-0 195154-83-7 216308-45-1 250378-10-0 288303-55-9
297156-40-2 304441-22-3 324770-96-9 357413-69-5 357413-70-8
357413-71-9
RL: TEM (Technical or engineered material use); USES (Uses)
(acid-decomposable resin; pos.-working **photoresist
compn.** contg. dialkylcarboxylic amide)
- IT 122752-67-4, Cholic acid tert-butyl ester
RL: TEM (Technical or engineered material use); USES (Uses)
(dissoln. regulator; pos.-working **photoresist compn**
. contg. dialkylcarboxylic amide)
- IT 66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium
perfluorooctane sulfonate 144317-44-2, Triphenylsulfonium
perfluorobutanesulfonate 194999-85-4, Bis(4-tert-butylphenyl)iodonium
perfluorobutanesulfonate
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generator**; pos.-working
photoresist compn. contg. dialkylcarboxylic amide)
- IT 68-12-2, N,N-Dimethylformamide, uses 127-19-5, N,N-Dimethylacetamide
1502-00-7 17566-51-7, N,N-Dimethylcyclohexanecarboxamide 86678-85-5,
N,N-Dimethylcholic acid amide
RL: MOA (Modifier or additive use); USES (Uses)
(pos.-working **photoresist compn.** contg.
dialkylcarboxylic amide)
- IT 484-47-9D, 2,4,5-Triphenylimidazole, amine compd. 3001-72-7D,
1,5-Diazabicyclo[4.3.0]-5-nonene, amine compd. 24544-04-5D,
2,6-Diisopropylaniline, amine compd.
RL: TEM (Technical or engineered material use); USES (Uses)
(pos.-working **photoresist compn.** contg.
dialkylcarboxylic amide)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: TEM (Technical or engineered material use); USES (Uses)
(**surfactant**; pos.-working **photoresist compn**
. contg. dialkylcarboxylic amide)

L38 ANSWER 41 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:598429 HCAPLUS

DN 135:173031

TI Photothermographic material

IN Takamuki, Yasuhiko

PA Japan

SO U.S. Pat. Appl. Publ., 19 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM G03C001-498

ICS G03C001-34

NCL 430523000

CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2001014433	A1	20010816	US 2001-757677	20010110
	US 6468725	B2	20021022		
	JP 2001264935	A2	20010928	JP 2000-370082	20001205
PRAI	JP 2000-3444	A	20000112		
AB	A photothermog. material is disclosed, comprising a support having on one side of the support a light-sensitive layer contg. a light-sensitive silver halide, an org. silver salt, a reducing agent and a binder, and at least one protective layer, wherein the light-sensitive layer has a silver content of 0.10 to 0.45 g/cm and a dry thickness of 1 to 10 .mu.m, and a total dry protective layer thickness being 3 to 20 .mu.m.				
ST	thermally developable photothermog material				
IT	Silica gel, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (Syloid 320; thermally developable photothermog. material from org. silver contg. carboxy group and diisocyanate compd.)				
IT	Photothermographic copying				
	Surfactants (thermally developable photothermog. material from org. silver contg. carboxy group and diisocyanate compd.)				
IT	Polyesters, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (thermally developable photothermog. material from org. silver contg. carboxy group and diisocyanate compd.)				
IT	9004-36-8, CAB 171-15				
	RL: TEM (Technical or engineered material use); USES (Uses) (CAB 171-15; thermally developable photothermog. material from org. silver contg. carboxy group and diisocyanate compd.)				
IT	95-14-7, 1H-Benzotriazole 1314-60-9, Sun Colloid AME-130 7631-86-9, Silica, uses 9010-92-8, Methacrylic acid-styrene copolymer 9011-14-7, Paraloid A 21 67006-32-0, 1,3-Bis(vinylsulfonyl)-2-hydroxypropane 79487-16-4, Acrylic acid-butyl acrylate-divinylbenzene-methyl methacrylate copolymer 106391-93-9, Acrylic acid-isononyl acrylate copolymer 154195-79-6, 2,2-Bis(hydroxymethyl)propionic acid-4,4'-diphenyl-methane diisocyanate-hexamethylene diisocyanate-triethylene glycol copolymer 251907-30-9, Surflon KH40 253157-17-4, Vitel 2200B				
	RL: TEM (Technical or engineered material use); USES (Uses) (thermally developable photothermog. material from org. silver contg. carboxy group and diisocyanate compd.)				
IT	251907-30-9, Surflon KH40				
	RL: TEM (Technical or engineered material use); USES (Uses) (thermally developable photothermog. material from org. silver contg. carboxy group and diisocyanate compd.)				
RN	251907-30-9 HCAPLUS				
CN	Surflon KH 40 (9CI) (CA INDEX NAME)				

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 42 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:595544 HCAPLUS

DN 135:187705

TI Positive-working photoresist composition for excimer layer

IN Kawabe, Yasumasa; Yamanaka, Tsukasa
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 38 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-039
 ICS C08L025-18; G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001222110	A2	20010817	JP 2000-33621	20000210
PRAI	JP 2000-33621		20000210		

AB The pos. **photoresist compn.** contains (A) 'a compd.
 generating acid by the irradiation of actinic ray or radiation, (B) a resin
 which is insol. or slightly sol. in alkali and becomes sol. in alkali by
 the action of an acid, (C) a carboxylic anhydride with mol. wt.
 .ltoreq.1000, (D) N-contg. basic compd., and (E) a
fluorosurfactant and/or a silicone surfactant. The **resist**
compn. is useful for KrF excimer laser irradiation, gives clear
 patterns without defect, and useful for semiconductor device manuf.

ST pos **photoresist acid generator**; hydroxystyrene polymer
 ether **photoresist**; carboxylic anhydride basic compd
photoresist; **fluoro silicone surfactant**
photoresist

IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material
 use); USES (Uses)
 (KP 341; pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant)

IT **Surfactants**
 (**fluorosurfactants**; pos. **photoresist compn**
 . contg. acid **generator**, resin, carboxylic anhydride, basic
 compd. and **surfactant**)

IT Positive **photoresists**
 (pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant)

IT Semiconductor device fabrication
 (pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant for manuf. of semiconductor device)

IT **Surfactants**
 (silicone; pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant)

IT 197447-16-8
 RL: TEM (Technical or engineered material use); USES (Uses)
 (acid **generator**; pos. **photoresist compn.**
 contg. acid **generator**, resin, carboxylic anhydride, basic
 compd. and **surfactant**)

IT 11114-17-3, Fluorad FC 430 137462-24-9, Megafac F 176 216679-67-3,
 Megafac R 08
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material

use); USES (Uses)

(pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant)

IT 100-51-6DP, Benzyl alcohol, ethers with poly(hydroxystyrene) 109-92-2DP,
Ethyl vinyl ether, ethers with poly(hydroxystyrene) 926-02-3DP,
tert-Butyl vinyl ether, ethers with poly(hydroxystyrene) 4442-79-9DP,
Cyclohexylethanol, ethers with poly(hydroxystyrene) 24979-70-2DP, VP
8000, ethers 24979-78-0DP, Poly(p-acetoxystyrene), hydrolyzed, ethers
95418-60-3DP, Poly(p-tert-butoxystyrene), hydrolyzed, ethers

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant)

IT 108-30-5, Succinic anhydride, uses 484-47-9, 2,4,5-Triphenylimidazole
2170-03-8, Itaconic anhydride 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-
nonene 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene 13912-65-7
53414-07-6 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate
71214-83-0 138529-81-4 212563-23-0

RL: TEM (Technical or engineered material use); USES (Uses)

(pos. **photoresist compn.** contg. acid
generator, resin, carboxylic anhydride, basic compd. and
surfactant)

L38 ANSWER 43 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:541847 HCAPLUS

DN 135:129575

TI Positive **photoresist compositions** containing
norbornene polymers bearing silicon-containing branches

IN Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 42 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-075

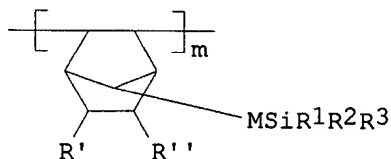
ICS C08F230-08; C08L043-04; G03F007-004; G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001201860	A2	20010727	JP 2000-8042	20000117
PRAI	JP 2000-8042		20000117		

GI



AB The pos. **photoresist compns.** contain polymers contg.

repeating units bearing groups forming acid groups by acidolysis and repeating units shown as I (R1-3 = alkyl, haloalkyl, halo, alkoxy, trialkylsilyl, trialkylsilyloxy; M = single bond, divalent linkage; R', R'' = H, trialkylmethylsilyl, trialkylmethylsilylmethyl, Cl2Si, trialkoxysilyl, dialkoxymethylsilyl, COA; A = OH, OB, NHB; B = alkyl; R' and R'' may be linked together via alkylene, CO2CO, CONR'''CO and thereby form ring; R' and R'' may be united, form alkylene, CO2CO, CONR'''CO and thereby form ring; R''' = H, OH, alkyl, OSO2R''''; R'''' = alkyl, trihalomethyl). The acid group-forming repeating units may be CH2CY(LCO2Q) (Y = H, Me, CN, Cl; L = single bond, divalent linkage; Q = H, group forming CO2H by acidolysis) or CH[C(O)X2L2A2]CH[C(O)X1L1A1] (X1, X2 = O, S, NH, NHSO2; L1, L2 = single bond, divalent linkage; A1 = Q, CO2Q; when X1 = O and L1 = single bond, A1 = Q; A2 = H, CN, OH, CO2H, CO2R', COCNHR'', alkyl, cyclic hydrocarbyl, alkoxy, CO2Q; R', R'' = alkyl; Q = H, group forming CO2H by acidolysis). The polymers may contain repeating units derived from maleic anhydride or (N-substituted) maleimides. Preferably, the **compns.** comprise (A) the above-mentioned polymers, (B) actinic light- or radiation-sensitive acid generators, (C) org. solvents, and optionally (D) org. bases, and (E) surfactants. The **compns.** have high sensitivity yet high resolu., give rectangular patterns with reduced edge roughness of line patterns, and suppressed pattern shifts on pattern transfer to the lower **resist** layers in O plasma etching process and are suitable for upper layers for bilayered **resists**. Their pattern formation using ArF excimer laser was exemplified.

- ST pos **photoresist** norbornene polymer silicon branch; acrylate norbornene copolymer pos **photoresist**; methacrylate norbornene copolymer pos **photoresist**; maleic acid deriv norbornene copolymer pos **photoresist**; maleimide norbornene copolymer pos **photoresist**; deep UV **resist** norbornene polymer silicon branch; chem amplified **resist** pos norbornene polymer
- IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (KP 341, **surfactants**; pos. **photoresist compns.** contg. norbornene polymers bearing silicon-contg. branches)
- IT Positive **photoresists**
 (UV, deep UV, chem. amplified; pos. **photoresist compns.** contg. norbornene polymers bearing silicon-contg. branches)
- IT Positive **photoresists**
 (chem. amplified; pos. **photoresist compns.** contg. norbornene polymers bearing silicon-contg. branches)
- IT Cycloalkenes
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polymers; pos. **photoresist compns.** contg. norbornene polymers bearing silicon-contg. branches)
- IT 13891-29-7, Triphenylsulfonium tosylate 66003-76-7, Diphenyliodonium triflate 144317-44-2 153698-46-5, Triphenylsulfonium pentafluorophenylsulfonate 197447-16-8, Triphenylsulfonium 2,4,6-triisopropylphenylsulfonate 251463-24-8 287925-54-6, Bis(p-tert-amylphenyl)iodonium tosylate 287925-55-7, Triphenylsulfonium p-dodecylphenylsulfonate 335385-79-0
 RL: CAT (Catalyst use); USES (Uses)
 (acid **generator**; pos. **photoresist compns.** contg. norbornene polymers bearing silicon-contg. branches)
- IT 762-72-1, Allyltrimethylsilane 351186-90-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(monomer starting material; pos. **photoresist compns**

. contg. norbornene polymers bearing silicon-contg. branches)

IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine
6674-22-2, 1,8-Diazabicyclo[5.4.0]undec-7-ene

RL: MOA (Modifier or additive use); USES (Uses)

(polymer dissoln. promoters; pos. **photoresist compns**

. contg. norbornene polymers bearing silicon-contg. branches)

IT 351186-91-9P 351186-92-0P 351186-93-1P 351186-95-3P 351186-97-5P
351186-99-7P 351187-00-3P 351187-01-4P 351187-02-5P 351187-03-6P
351187-04-7P 351187-05-8P 351187-06-9P 351187-07-0P 351187-09-2P
351187-11-6P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos. **photoresist compns.** contg. norbornene

polymers bearing silicon-contg. branches)

IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac
F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); USES (Uses)

(**surfactants**; pos. **photoresist compns.**

contg. norbornene polymers bearing silicon-contg. branches)

L38 ANSWER 44 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:541843 HCAPLUS

DN 135:129573

TI Deep UV positive **photoresist compositions** containing
norbornene- or dicyclopentadiene-based polymers

IN Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 30 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

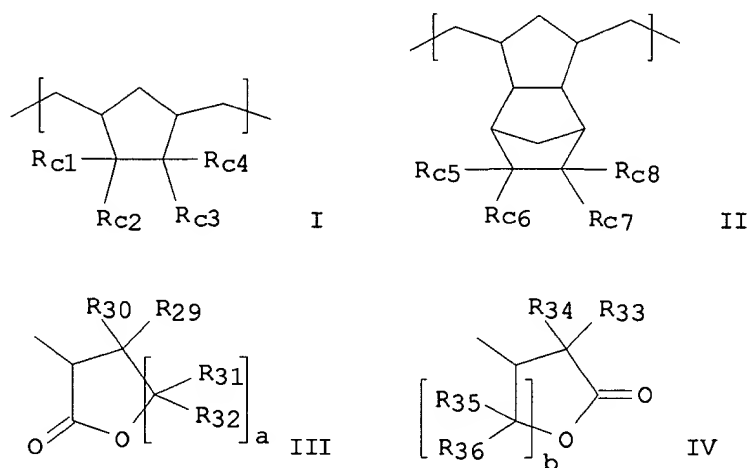
IC ICM G03F007-039

ICS G03F007-004; G03F007-095; G03F007-26; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2001201855	A2	20010727	JP 2000-8239	20000117
PRAI	JP 2000-8239		20000117		
GI					



- AB The **photoresist compns.** contain (A) active light- or radiation-sensitive acid generators and (B) resins whose solubilities into alk. solns. are increased by acidolysis and which involve repeating units norbornene derivs. I and/or dicyclopentadiene derivs. II [Rc1-Rc8 = H, (substituted) alkyl, (substituted) cyclohydrocarbyl, halo, cyano, CO₂H, C(O)YARc9, C(O)YACO₂(CH₂)₂SiR₁R₂R₃, CO₂Rc11, CO₂(CH₂)₂SiR₁R₂R₃; .gtoreq.1 of Rc1-Rc4 = C(O)YACO₂(CH₂)₂SiR₁R₂R₃ or CO₂(CH₂)₂SiR₁R₂R₃; .gtoreq.1 of Rc5-Rc8 = C(O)YACO₂(CH₂)₂SiR₁R₂R₃ or CO₂(CH₂)₂SiR₁R₂R₃; R1-R3 = alkyl, trialkylsilyl, trialkylsilyloxy; Y = O, S, NH, NHSO₂, NHSO₂NH; Rc9 = CO₂H, CO₂Rc10 (Rc10 = same as Rc11 or lactones III or IV), CN, OH, (substituted) alkoxyl, CONHRc11, CONHSO₂Rc11, or lactones III or IV; Rc11 = (substituted) alkyl, (substituted) cycloalkyl; A = single bond; alkylene, substituted alkylene, O, S, CO, CO₂, amide, sulfonamide, urethane, urea; R29-R36 = H, alkyl; a, b = 1, 2]. The **compns.** may further contain (C) org. bases, (D) silicone-based, F-contg., or nonionic surfactants and (E) org. solvents. In the bilayer **resist** process, pattern shift on pattern transfer to underlayers while O plasma etching is minimized. Its pattern formation on i-ray **resist** coated on a Si wafer by exposing to ArF excimer laser was exemplified.
- ST deep UV pos **photoresist** norbornene polymer; cyclopentadiene trimethylsilylethyl acrylate reaction polymn **photoresist**; methoxyethyl acrylate cyclopentadiene reaction polymn **photoresist**; dicyclopentadiene polymer deep UV pos **photoresist**; argon fluoride excimer laser **photoresist**
- IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(KP 341, **surfactants**; deep UV pos. **photoresist compns.** contg. norbornene- or dicyclopentadiene-based polymers)
- IT Positive **photoresists**
(UV; deep UV pos. **photoresist compns.** contg. norbornene- or dicyclopentadiene-based polymers)
- IT Cycloalkenes
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polymers; deep UV pos. **photoresist compns.** contg. norbornene- or dicyclopentadiene-based polymers)
- IT 351195-80-7DP, hydrogenated
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(deep UV pos. **photoresist compns.** contg.

norbornene- or dicyclopentadiene-based polymers)

IT 351195-81-8D, hydrogenated 351195-82-9D, hydrogenated 351195-84-1D, hydrogenated

RL: TEM (Technical or engineered material use); USES (Uses)

(deep UV pos. **photoresist compns.** contg.

norbornene- or dicyclopentadiene-based polymers)

IT 57840-38-7 66003-76-7 66003-78-9 144089-15-6 153698-46-5
335385-79-0 335385-81-4 335385-82-5

RL: CAT (Catalyst use); USES (Uses)

(**photoacid generator**; deep UV pos.

photoresist compns. contg. norbornene- or

dicyclopentadiene-based polymers)

IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine
6674-22-2, 1,8-Diazabicyclo[5.4.0]undec-7-ene

RL: MOA (Modifier or additive use); USES (Uses)

(polymer dissoln. promoters; deep UV pos. **photoresist**

compns. contg. norbornene- or dicyclopentadiene-based polymers)

IT 121-46-0, Norbornadiene 3121-61-7, 2-Methoxyethyl acrylate
131494-24-1, 2-(Trimethylsilyl)ethyl acrylate

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting materials for monomer prepn.; deep UV pos.

photoresist compns. contg. norbornene- or

dicyclopentadiene-based polymers)

IT 9016-45-9, Poly(oxyethylene) nonylphenyl ether 137462-24-9, Megafac
F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); USES (Uses)

(**surfactants**; deep UV pos. **photoresist**

compns. contg. norbornene- or dicyclopentadiene-based polymers)

L38 ANSWER 45 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:496392 HCAPLUS

DN 135:99845

TI Positive-working **photoresist composition** containing
alkali-soluble polymer with silyl group

IN Mizutani, Kazuyoshi; Yanami, Shoichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 52 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS C08F030-08; C08K005-00; C08L043-04; C08L101-00; G03F007-004;
G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

Section cross-reference(s): 38, 76

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001188349	A2	20010710	JP 2000-303876	20001003
PRAI	JP 1999-298606	A	19991020		

AB The **compn.** comprises (A) a binder resin having a repeating unit
bearing a structure (CH₂)_nSiR₁R₂R₃ (R₁-3 = alkyl, haloalkyl, halo, alkoxy,
trialkylsilyl, trialkylsilyloxy; n = 0, 1) and a repeating unit bearing a
group which decomps. by the action of an acid and increases the soly. in
an alk. developer at the side chain, (B) a compd. generating an acid by

the action of an actinic ray or radiation, (C) a solvent dissolving A and B, (D) an org. base compd., (E) .gtoreq.1 surfactant selected from a **fluorosurfactant**, a silicone **surfactant**, and a nonionic surfactant. The **compn.** shows high resoln. and gives patterns with rectangular cross section and is useful for manuf. of semiconductor device.

ST **photoresist** pos alkali soluble binder silyl group; acid generator **photoresist**; surfactant **photoresist** org base

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(KP 341; pos.-working **photoresist compn.** contg.

binder with silyl group, acid generator, org. base, and **surfactant**)

IT **Surfactants**

(**fluorosurfactants**; pos.-working **photoresist**

compn. contg. binder with silyl group, acid generator, org. base, and **surfactant**)

IT **Surfactants**

(nonionic; pos.-working **photoresist compn.** contg.

binder with silyl group, acid generator, org. base, and **surfactant**)

IT Positive **photoresists**

(pos.-working **photoresist compn.** contg. binder with

silyl group, acid generator, org. base, and **surfactant**)

IT **Surfactants**

(silicone; pos.-working **photoresist compn.** contg.

binder with silyl group, acid generator, org. base, and **surfactant**)

IT 1122-58-3, DMAP 3001-72-7, DBN 6674-22-2, DBU 9016-45-9, Polyoxyethylene nonyl phenyl ether 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(pos.-working **photoresist compn.** contg. binder with

silyl group, acid generator, org. base, and **surfactant**)

IT 249743-11-1P 314295-77-7P 336609-21-3P 336609-24-6P 336609-25-7P

336609-27-9P 336609-31-5P, tert-Butyl acrylate-maleic

anhydride-trimethylallylsilane-daljsdhf copolymer 340829-95-0P

348129-27-1P 348129-35-1P 348129-37-3P 348129-40-8P 348129-42-0P

348129-43-1P 348129-45-3P 348129-49-7P 348129-52-2P 348129-55-5P

349477-30-1P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working **photoresist compn.** contg. binder with

silyl group, acid generator, org. base, and **surfactant**)

IT 57835-99-1, Triphenylsulfonium hexafluorophosphate 144089-15-6

144317-44-2, Triphenylsulfonium nonaflate 153698-46-5,

Triphenylsulfonium pentafluorophenylsulfonate 197447-16-8,

Triphenylsulfonium 2,4,6-triisopropylphenylsulfonate 258872-05-8

287925-54-6, Bis(p-tert-amylphenyl)iodonium tosylate 343629-51-6

348129-65-7

RL: TEM (Technical or engineered material use); USES (Uses)

(pos.-working **photoresist compn.** contg. binder with

silyl group, acid generator, org. base, and **surfactant**)

L38 ANSWER 46 OF 77 HCAPLUS COPYRIGHT 2003 ACS

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

AN 2001:485430 HCAPLUS
 DN 135:84315
 TI Resist image formation and undercoat resin **composition** for it
 IN Kasuya, Kei; Kato, Koji
 PA Hitachi Chemical Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-11
 ICS G03F001-08; G03F007-039; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001183843	A2	20010706	JP 1999-370131	19991227
PRAI	JP 1999-370131		19991227		
AB	The undercoat resin compn. contains poly(vinyl Me ether) and a fluorosurfactant . The image is formed according to the steps; (1) coating the undercoat resin compn. on a mask blank, (2) coating a pos.-working chem. amplification-type photoresist on it, and (3) irradiating an actinic ray and developing. Influence of the mask blank is removed by using the undercoat layer and resist pattern with rectangular cross section is obtained.				
ST	photoresist undercoat layer vinyl methyl ether polymer; fluoro surfactant undercoat layer photoresist				
IT	Surfactants (fluorosurfactants ; photoresist image formation using undercoat resin compn. contg. poly(vinyl Me ether) and fluorosurfactant)				
IT	Positive photoresists (photoresist image formation using undercoat resin compn. contg. poly(vinyl Me ether) and fluorosurfactant)				
IT	9003-09-2, P 0384 RL: TEM (Technical or engineered material use); USES (Uses) (P 0384; photoresist image formation using undercoat resin compn. contg. poly(vinyl Me ether) and fluorosurfactant)				
IT	29081-56-9, Fluorad FC-93 RL: TEM (Technical or engineered material use); USES (Uses) (photoresist image formation using undercoat resin compn. contg. poly(vinyl Me ether) and fluorosurfactant)				

L38 ANSWER 47 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2001:469374 HCAPLUS
 DN 135:84296
 TI Radiation-sensitive chemically amplified negative-working **resist compositions** containing vinylbenzodioxole derivatives polymers
 IN Adekawa, Yutaka
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 30 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese

IC ICM G03F007-038
ICS C08F002-54; C08K005-00; C08L025-18; G03F007-004; G03F007-033;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001174994	A2	20010629	JP 1999-358016	19991216
PRAI	JP 1999-358016		19991216		
OS	MARPAT 135:84296				
AB	The resist compns. contain (A) alk.-sol. resins involving structure units of 4-vinyl-1,3-benzodioxole derivs., compds. which generate acids by electron beam or x-ray irradiation, acid-crosslinkable crosslinking agents, and optionally F- and/or silicone-based surfactants. The compns. satisfy properties of sensitivity, developability, and resist pattern profiles to the use of electron beam or x-ray.				
ST	radiation sensitive chem amplified neg resist ; vinylbenzodioxole polymer alkali soly neg resist				
IT	Surfactants (F- and/or silicone-based; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole deriv. polymers)				
IT	Resists (neg.-working radiation-sensitive; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole deriv. polymers)				
IT	Electron beam resists (neg.-working; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole deriv. polymers)				
IT	X-ray resists (neg.; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole deriv. polymers)				
IT	Crosslinking agents (radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole derivs. polymers)				
IT	Polysiloxanes, uses RL: MOA (Modifier or additive use) ; USES (Uses) (surfactant ; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole derivs. polymers)				
IT	66003-78-9 157826-08-9 RL: MOA (Modifier or additive use) ; USES (Uses) (acid generator; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole derivs. polymers)				
IT	153698-46-5P, Triphenylsulfonium pentafluorobenzenesulfonate 258341-98-9P RL: MOA (Modifier or additive use) ; PNU (Preparation, unclassified); PREP (Preparation); USES (Uses) (acid generator; radiation-sensitive chem. amplified neg.-working resist compns. contg. vinylbenzodioxole derivs. polymers)				
IT	161679-94-3P 162846-57-3P RL: MOA (Modifier or additive use) ; PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or				

reagent); USES (Uses)
(crosslinking agent; radiation-sensitive chem. amplified neg.-working
resist compns. contg. vinylbenzodioxole derivs.
polymers)

IT 3089-11-0 32449-09-5 161679-98-7 185502-11-8 185502-14-1
197087-73-3 197087-74-4 346694-57-3 346694-58-4
RL: **MOA (Modifier or additive use)**; RCT (Reactant); RACT
(Reactant or reagent); USES (Uses)
(crosslinking agent; radiation-sensitive chem. amplified neg.-working
resist compns. contg. vinylbenzodioxole derivs.
polymers)

IT 3744-08-9P, Triphenylsulfonium iodide 258342-09-5P 270564-02-8P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
RACT (Reactant or reagent)
(intermediate for acid generator; radiation-sensitive chem. amplified
neg.-working **resist compns.** contg.
vinylbenzodioxole derivs. polymers)

IT 346694-37-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(radiation-sensitive chem. amplified neg.-working **resist
compns.** contg. vinylbenzodioxole deriv. polymers)

IT 346694-39-1P 346694-41-5P 346694-43-7P 346694-45-9P 346694-47-1P
346694-48-2P 346694-50-6P 346694-51-7P 346694-53-9P 346694-54-0P
346694-55-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(radiation-sensitive chem. amplified neg.-working **resist
compns.** contg. vinylbenzodioxole derivs. polymers)

IT 945-51-7, Diphenyl sulfoxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for acid generator; radiation-sensitive chem. amplified
neg.-working **resist compns.** contg.
vinylbenzodioxole derivs. polymers)

IT 832-53-1, Pentafluorobenzenesulfonyl chloride 2049-95-8,
tert-Amylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material for acid generator; radiation-sensitive chem.
amplified neg.-working **resist compns.** contg.
vinylbenzodioxole derivs. polymers)

IT 110726-28-8, 1-[.alpha.-Methyl-.alpha.-(4-hydroxyphenyl)ethyl]-4-
[.alpha.,.alpha.-bis(4-hydroxyphenyl)ethyl]benzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material for crosslinking agent; radiation-sensitive chem.
amplified neg.-working **resist compns.** contg.
vinylbenzodioxole derivs. polymers)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**surfactant**; radiation-sensitive chem. amplified neg.-working
resist compns. contg. vinylbenzodioxole derivs.
polymers)

L38 ANSWER 48 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:423557 HCAPLUS

DN 135:38893

TI Positive **photoresist compositions** for manufacture of
semiconductor devices

IN Sato, Kenichiro; Kodama, Kunihiro; Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 66 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS G03F007-004; G03F007-039; G03F007-075; H01L021-027; C07C025-18;
 C07C381-12
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 76

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001159812	A2	20010612	JP 1999-343714	19991202
	US 6506535	B1	20030114	US 2000-698221	20001030
PRAI	JP 1999-307317	A	19991028		
	JP 1999-331785	A	19991122		
	JP 1999-338487	A	19991129		
	JP 1999-343714	A	19991202		
OS	MARPAT 135:38893				
AB	The comps. contain (A) .gtoreq.1 compds., generating sulfonic acids by irradiation of actinic light beam or radiation, selected from Markush structures in the document, (B) polymers, whose solubility in alkali developers is increased by acids, having specified Si-content structural repeating units and specified C=O-content structural repeating units, (C) .gtoreq.1 solvents for A and B, (D) organic basic compds., and (E) .gtoreq.1 surfactants selected from F compds., Si compds., and nonionic compds. The comps. show small change in isolated line width for exposure amount.				
ST	pos photoresist exposure margin semiconductor fabrication; sulfonic acid generator pos photoresist semiconductor; silyl polymer acid decomposable pos photoresist semiconductor; surfactant pos photoresist exposure margin semiconductor				
IT	Polysiloxanes, uses RL: MOA (Modifier or additive use); USES (Uses) (KP 341, surfactants ; improvement of exposure margin in pos. photoresists for manufacture of semiconductor devices)				
IT	Positive photoresists Semiconductor device fabrication Surfactants (improvement of exposure margin in pos. photoresists for manufacture of semiconductor devices)				
IT	337954-60-6P	337954-62-8P	337954-64-0P	337954-66-2P	337954-68-4P
	337954-71-9P	337954-76-4P	343629-38-9P		
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acid-decomposable polymers; improvement of exposure margin in pos. photoresists for manufacture of semiconductor devices)				
IT	484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine 6674-22-2, DBU RL: MOA (Modifier or additive use); USES (Uses) (improvement of exposure margin in pos. photoresists for manufacture of semiconductor devices)				
IT	343629-32-3P RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (monomers for acid-decomposable polymers; improvement of exposure				

margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 144089-15-6 144317-44-2 241806-76-8 258341-95-6 258341-99-0
301525-08-6 312386-77-9 338445-30-0 338445-31-1 338445-34-4
343629-44-7 343629-47-0 343629-51-6 343629-53-8 343629-55-0
343629-57-2 343629-58-3

RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generators**; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 90913-72-7 343629-30-1

RL: RCT (Reactant); RACT (Reactant or reagent)
(reactants in prepn. of monomers for acid-decomposable polymers; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); USES (Uses)
(**surfactants**; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

L38 ANSWER 49 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:421234 HCAPLUS

DN 135:53496

TI Positive **photoresist compositions** for manufacture of semiconductor devices

IN Sato, Kenichiro; Kodama, Kunihiro; Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 59 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS G03F007-004; G03F007-031; G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001159822	A2	20010612	JP 1999-343713	19991202
PRAI	JP 1999-343713		19991202		

OS MARPAT 135:53496

AB The **comps.** contain (A) .gtoreq.1 compds., generating sulfonic acids by irradiation of actinic light beam or radiation, selected from Markush structures in the document, (B) acid-decomposable polymers, whose soly. in alkali developers is increased by acids, having specified Si-contg. structural repeating units and specified C:O-contg. structural repeating units, (C) .gtoreq.1 solvents for A and B, (D) org. basic compds., and (E) .gtoreq.1 **surfactants** selected from F compds., Si compds., and nonionic compds. The **comps.** show small change in isolated line width for exposure amt.

ST pos **photoresist** exposure margin semiconductor fabrication; sulfonic acid **generator** pos **photoresist** semiconductor; silyl polymer acid decomposable pos **photoresist** semiconductor; surfactant pos **photoresist** exposure margin semiconductor

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); USES (Uses)

(KP 341, **surfactants**; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT Positive **photoresists**
Semiconductor device fabrication
Surfactants
(improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 335385-72-3P 335385-77-8P 340977-48-2P 340977-50-6P 340977-52-8P
340977-54-0P 343329-10-2P 344448-45-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid-decomposable polymers; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine 6674-22-2, DBU
RL: MOA (Modifier or additive use); USES (Uses)
(improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 335385-69-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomers for acid-decomposable polymers; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 144089-15-6 144317-44-2 241806-76-8 258341-95-6 258341-99-0
301525-08-6 312386-77-9 338445-30-0 338445-31-1 338445-34-4
343629-44-7 343629-47-0 343629-51-6 343629-53-8 343629-55-0
343629-57-2 343629-58-3
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generators**; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 814-68-6, Acrylic acid chloride 90913-72-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactants in prepn. of monomers for acid-decomposable polymers; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); USES (Uses)
(**surfactants**; improvement of exposure margin in pos. **photoresists** for manuf. of semiconductor devices)

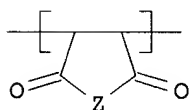
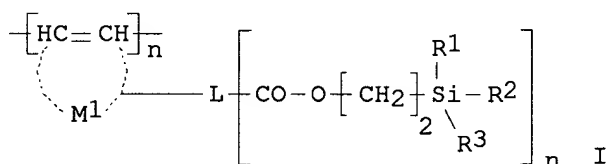
L38 ANSWER 50 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:388948 HCAPLUS
DN 135:12122
TI Positive-working **photoresist composition** containing sulfonium compound acid generator
IN Sato, Kenichiro; Mizutani, Kazuyoshi
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 65 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS C08F222-02; C08F222-06; C08F222-40; C08F232-08; C08K005-103; C08K005-16; C08K005-36; C08L035-00; C08L045-00; C08L071-02; G03F007-004; H01L021-027; C07C381-12

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

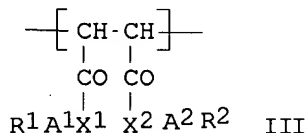
Section cross-reference(s): 38, 76

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001147536	A2	20010529	JP 1999-331785	19991122
	US 6506535	B1	20030114	US 2000-698221	20001030
PRAI	JP 1999-307317	A	19991028		
	JP 1999-331785	A	19991122		
	JP 1999-338487	A	19991129		
	JP 1999-343714	A	19991202		
OS	MARPAT 135:12122				
GI					



II



III

AB The **compn.** comprises (A) a sulfonium compd. $R_1R_2R_3S^+.Z^-$ [$R_1-3 =$ (substituted) alkyl, (substituted) aryl; $Z^- =$ counter anion] which generates an acid by the action of the actinic ray or radiation, (B) an acid-decomposable resin having repeating units I ($M_1 =$ atoms forming alicyclic structure; $n = 1, 2$; $L =$ bond, linkage with $(n + 1)$ valences; $R', R'', R''' =$ alkyl, Ph, trialkylsilyl, trialkylsilyloxy) and .gtoreq.1 of II and III ($Z = O, NR_3$; $R_3 = H, \text{alkyl}, OSO_2R_4$; $R_4 = \text{alkyl}, \text{trihalomethyl}$; $X_1-2 = H, S, NH, NHSO_2$; $A_1-2 =$ bond, divalent linkage; $R_1-2 = H, CN, OH, CO_2H, CO_2R_5, CONHR_6, \text{alkyl}, \text{alkoxy}, \text{cyclic hydrocarbon which may have ester or carbonyl group in ring-forming bond}$; $R_5 = \text{alkyl}, \text{cyclic hydrocarbon which may have ester or carbonyl group in ring-forming bond}$; $R_6 = \text{alkyl}$), (C) .gtoreq.1 solvent dissolving (A) and (B), (D) an org. base compd., and (E) .gtoreq.1 **surfactant** selected from F-, Si-, and nonionic surfactant. Particle generation in the **resist** soln. is prevented, the **compn.** shows high sensitivity and resoln. and is useful for manuf. of contact hole patterns in semiconductor device fabrication.

ST **photoresist** pos sulfonium acid **generator**; surfactant
photoresist semiconductor device manuf; resin acid decomposable
photoresist; org base compd **photoresist**

IT Polysiloxanes, uses

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(KP 341; **photoresist compn.** contg. sulfonium compd.
acid generator, acid-decomposable polymer, basic compd. and
surfactant)

IT **Photoresists****Surfactants**

(**photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant**)

IT Sulfonium compounds

RL: TEM (Technical or engineered material use); USES (Uses)

(**photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant**)

IT Semiconductor device fabrication

(**photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant** for manuf. of semiconductor device)

IT 66003-78-9 153698-46-5 177786-98-0 206861-54-3 258341-99-0
260061-58-3 279218-75-6 301525-08-6 335385-81-4 341990-03-2
341990-05-4

RL: TEM (Technical or engineered material use); USES (Uses)

(acid **generator**; **photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant**)

IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine
6674-22-2, DBU 9016-45-9, Polyoxyethylene nonyl phenyl ether
137462-24-9, Megafac F 176 216679-67-3, Megafac R 08

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(**photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant**)

IT 337954-60-6P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(**photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant**)

IT 337954-62-8 337954-64-0 337954-66-2 337954-68-4 337954-71-9
337954-74-2 337954-76-4

RL: TEM (Technical or engineered material use); USES (Uses)

(**photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, basic compd. and **surfactant**)

L38 ANSWER 51 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:388940 HCAPLUS

DN 135:12115

TI Positive-working **photoresist composition** containing sulfonium compound acid generator, acid-decomposable polymer, and surfactant

IN Kodama, Kunihiro; Sato, Kenichiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 46 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001147524	A2	20010529	JP 1999-328589	19991118
PRAI	JP 1999-328589		19991118		
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

- AB The **compn.** comprises (A) acid generator Ph3S+.X- and/or I (X- = RSO3-; R =C.gtoreq.2 alkyl substituted with F) which generates an acid by the action of actinic ray or radiation, (B) a polymer contg. II (R11, R12 = H, CN, halo alkyl; Z = atoms forming alicyclic group contg. C-C bond) and .gtoreq.1 of CH(COXAR1)CH(COXAR2) [R1, R2 = H, CN, OH, CO2H, CO2R5, CONHR6, CONHSO2R6; alkyl, alkoxy, cyclic hydrocarbon, Q1-2; (R21-R30 = H, alkyl; a,b = 1, 2); R5 = alkyl, cyclic hydrocarbon. Q1-2; R6 = alkyl, cyclic hydrocarbon; X = O, S, NH, NHSO2, NHSO2NH; A = bond, divalent linkage] and III (Z2 = O, NR3; R3 = H, OH, OSO2R4; R4 = alkyl, haloalkyl, cycloalkyl, camphor residue) as repeating units and having an acid decomposable group, and (C) F- and/or Si-type surfactant. The **compn.** is useful for microphoto fabrication, shows high sensitivity to far UV and ArF excimer laser, and development defect is prevented.
- ST **photoresist acid generator sulfonium compd;**
tetracyclododecene maleic anhydride polymer acid decomposable;
surfactant fluoro silicon photoresist
- IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(KP 341; pos-working **photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, and **surfactant**)
- IT Positive **photoresists**
Surfactants
(pos-working **photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, and **surfactant**)
- IT 341548-88-7DP, derivs.
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dissoln. inhibitor; pos-working **photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, and **surfactant**)
- IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(pos-working **photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, and **surfactant**)
- IT 144317-44-2P, Triphenylsulfonium perfluorobutanesulfonate 301525-10-0P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos-working **photoresist compn.** contg. sulfonium compd. acid generator, acid-decomposable polymer, and

- surfactant)
- IT 144089-15-6 144089-16-7 144116-10-9 188626-47-3 210040-28-1
242143-69-7 242143-71-1 301525-13-3 301525-15-5 301525-19-9
312386-49-5 312386-66-6 341979-02-0 341979-04-2 341979-06-4
RL: TEM (Technical or engineered material use); USES (Uses)
(pos-working **photoresist compn.** contg. sulfonium
compd. acid generator, acid-decomposable polymer, and
surfactant)
- IT 301525-09-7P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. and polymn. of)
- IT 3744-08-9P, Triphenylsulfonium iodide
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
RACT (Reactant or reagent)
(prepn. of sulfonium compd. acid generator)
- IT 71-43-2, Benzene, reactions 375-73-5, Perfluorobutane sulfonic acid
945-51-7, Diphenylsulfoxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of sulfonium compd. acid generator)
- IT 93940-09-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with cyclopentadiene)
- IT 542-92-7, Cyclopentadiene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with oxodimethylbutanol methacrylate)
- L38 ANSWER 52 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:356499 HCAPLUS
DN 134:374094
TI Heat-developable photographic material having protective layer with
controlled water contact angle
IN Matsumura, Tomoyuki
PA Konica Co., Japan
SO Jpn. Kokai Tokkyo Koho, 58 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03C001-498
ICS G03C001-498; G03C001-76
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)
Section cross-reference(s): 42
FAN.CNT 1
- | | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | JP 2001133923 | A2 | 20010518 | JP 1999-312290 | 19991102 |
| PRAI | JP 1999-312290 | | 19991102 | | |
| OS | MARPAT 134:374094 | | | | |
| AB | The material comprises a transparent support having thereon (A) a
photosensitive layer contg. an org. Ag salt, a photosensitive Ag halide, a
reducing agent, and a contrast-increasing agent and (B) a protective layer
whose water contact angle is .gtoreq.60.degree.. Influence of change of
environmental conditions on the sensitivity and line width of the material
is reduced. | | | | |
| ST | heat developable photog material protective layer; water contact angle
protective layer photog; sensitivity retention heat developable photog
material; hydrophilic coating heat developable photog material | | | | |

IT Photothermographic copying
(heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT Coating materials
(hydrophilic coatings; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT Latex
(in coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT Surfactants
(nonionic, in coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 9004-35-7, Cellulose acetate
RL: TEM (Technical or engineered material use); USES (Uses)
(CA-REF, coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 9004-36-8, CAB 381 20 9004-39-1, CAP 482 0.5
RL: TEM (Technical or engineered material use); USES (Uses)
(coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 313989-82-1 313989-84-3 318236-24-7 339531-73-6
RL: TEM (Technical or engineered material use); USES (Uses)
(contrast-increasing agent; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 52757-51-4, 2-Ethylhexyl methacrylate-2-hydroxyethyl methacrylate-methacrylic acid-methyl methacrylate-styrene copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(latex in coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 251907-30-9, KH 40
RL: NUU (Other use, unclassified); USES (Uses)
(surfactant in coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 96231-87-7, S 381
RL: NUU (Other use, unclassified); USES (Uses)
(surfactant in coatings; heat-developable photog. material having surface-protective layer with regulated water contact angle)

IT 251907-30-9, KH 40
RL: NUU (Other use, unclassified); USES (Uses)
(surfactant in coating; heat-developable photog. material having surface-protective layer with regulated water contact angle)

RN 251907-30-9 HCAPLUS

CN Surflon KH 40 (9CI) (CA INDEX NAME)

*** SUBSTANCE INFORMATION NOT AVAILABLE ***

L38 ANSWER 53 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:336589 HCAPLUS

DN 134:346468

TI **Photoresist composition** containing
fluorosurfactant

IN Hatakeyama, Jun

PA Shin-Etsu Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS G03F007-004; C08G065-00; C08K005-00; C08L071-00; C08L101-00;

H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001125259	A2	20010511	JP 1999-308497	19991029
PRAI	JP 1999-308497		19991029		

AB The photoresist **compn.** contains a **surfactant** having perfluoroalkyl ether as a hydrophobic group. Microbubble generation is prevented and the **compn.** shows good storage stability and is suited for spin coating.

ST photoresist perfluoroalkyl ether **surfactant**

IT **Surfactants**
(**fluorosurfactants**; **photoresist compn.** contg. perfluoroalkyl ether **surfactant**)

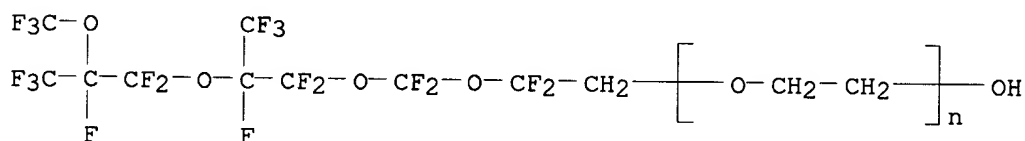
IT **Photoresists**
(photoresist **compn.** contg. perfluoroalkyl ether **surfactant**)

IT **337955-47-2 337955-48-3 337955-49-4 337955-50-7**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(**photoresist compn.** contg. perfluoroalkyl ether **surfactant**)

IT **337955-47-2 337955-48-3 337955-49-4 337955-50-7**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(**photoresist compn.** contg. perfluoroalkyl ether **surfactant**)

RN 337955-47-2 HCAPLUS

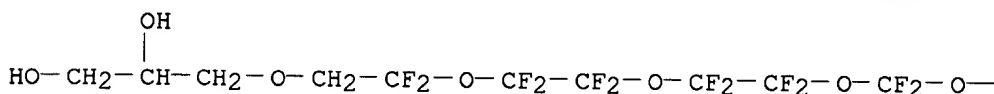
CN Poly(oxy-1,2-ethanediyl), .alpha.-[2,2,4,4,6,6,7,9,9,10,12,12,12-tridecafluoro-7,10-bis(trifluoromethyl)-3,5,8,11-tetraoxadodec-1-yl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



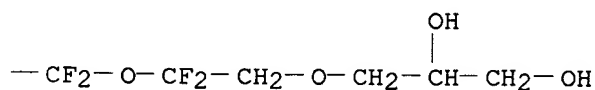
RN 337955-48-3 HCAPLUS

CN 4,7,9,11,14,17,20-Heptaoxatricosane-1,2,22,23-tetrol,
6,6,8,8,10,10,12,12,13,13,15,15,16,16,18,18-hexadecafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



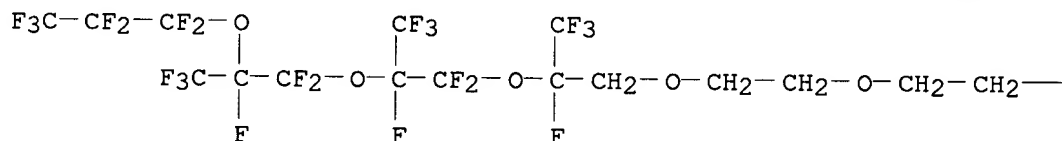
PAGE 1-B



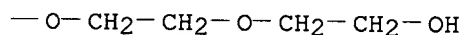
RN 337955-49-4 HCAPLUS

CN 3,6,9,12,15,18,21-Heptaooxatetracosan-1-ol, 14,16,16,17,19,19,20,22,22,23,23,24,24,24-tetradecafluoro-14,17,20-tris(trifluoromethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



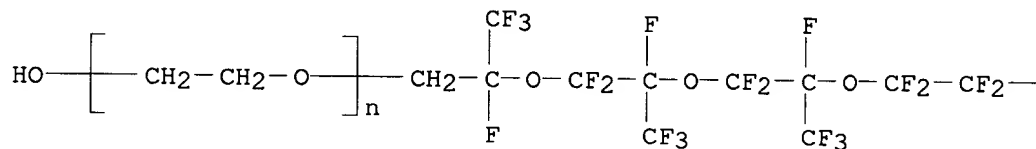
PAGE 1-B



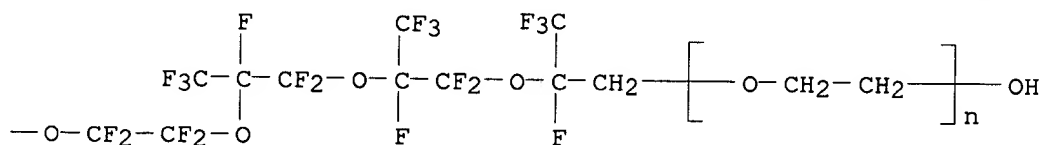
RN 337955-50-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[2,4,4,5,7,7,8,10,10,11,11,13,13,14,14,16,17,17,19,20,20,22-docosafluoro-2,5,8,16,19,22-hexakis(trifluoromethyl)-3,6,9,12,15,18,21-heptaooxatricosane-1,23-diyl]bis[.omega.-hydroxy- (9CI) (CA INDEX NAME)]

PAGE 1-A



PAGE 1-B



L38 ANSWER 54 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2001:319605 HCAPLUS
 DN 134:334291
 TI Positive-working **photoresist composition**
 IN Sato, Kenichiro; Mizutani, Kazuyoshi; Yasunami, Shoichiro
 PA Fuji Photo Film Co., Ltd., Japan
 SO Eur. Pat. Appl., 80 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM G03F007-075
 ICS G03F007-004
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1096319	A1	20010502	EP 2000-123359	20001030
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001194794	A2	20010719	JP 2000-328968	20001027
	JP 2001201857	A2	20010727	JP 2000-329053	20001027
PRAI	JP 1999-309587	A	19991029		
	JP 1999-319837	A	19991110		
AB	The invention relates to a pos.-working photoresist compn. for use in the prodn. of semiconductor integrated circuit element, mask for the prodn. of integrated circuit, printed wiring board, liq. crystal panel, etc. The photoresist compn. comprises (a) a resin comprising the specific repeating structural units which resin increases in its soly. in an alk. developer when acted upon by an acid, (b') an onium salt compd. which generates an acid when irradiated with active ray or radiation and (c) .gtoreq.1 of F-based and/or Si-based surface active agent and nonionic surface active agent or a pos.-working photoresist compn. comprises (a) a resin comprising the specific repeating structural units which resin increases in its soly. in an alk. developer when acted upon by an acid, (b) a compd. which generates an acid when irradiated with active ray or radiation, and (d) a mixed solvent contg. .gtoreq.1 propylene glycol monoalkyl ether carboxylate and .gtoreq.1 of solvents selected from the group consisting of propylene glycol monoalkyl ether, alkyl lactate and alkoxyalkyl propionate and solvents selected from the group consisting of .gamma.-butyrolactone, ethylene carbonate and propylene carbonate.				
ST	pos working photoresist maleic anhydride polymer photoacid generator surfactant; iodonium sulfonium fluoride silane solvent UV photoresist integrated circuit				
IT	Polysiloxanes, uses RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses) (KP 341; surfactant for photoresist compn . used in manuf. of semiconductor integrated circuit element)				
IT	Positive photoresists Surfactants (photoresist compn. used in manuf. of semiconductor integrated circuit element)				
IT	Fluoropolymers, uses Onium compounds Polymers, uses				

RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)

(**photoresist compn.** used in manuf. of semiconductor integrated circuit element)

IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)

(org. base for **photoresist compn.** used in manuf. of semiconductor integrated circuit element)

IT 336612-42-1, FHi 028D

RL: DEV (Device component use); NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(**photoresist**; synthesis of resin having high soly. in alk. developer for **photoresist compn.** used in manuf. of semiconductor integrated circuit element)

IT 96-48-0, .gamma.-Butyrolactone 96-49-1, Ethylene carbonate 97-64-3, Ethyl lactate 108-32-7, Propylene carbonate 108-94-1, Cyclohexanone, uses 1320-67-8, Propylene glycol monomethyl ether 14272-48-1 84540-57-8, Propylene glycol monomethyl ether acetate 98516-33-7, Propylene glycol monomethyl ether propionate
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)

(solvent for **photoresist compn.** used in manuf. of semiconductor integrated circuit element)

IT 9016-45-9, Polyethylene glycol nonylphenyl ether 137462-24-9, MEGAFAC F 176 216679-67-3, MEGAFAC R 08
RL: MOA (Modifier or additive use); NUU (Other use, unclassified); USES (Uses)

(**surfactant** for **photoresist compn.** used in manuf. of semiconductor integrated circuit element)

IT 213740-80-8P 220122-68-9P 258341-96-7P 258341-97-8P 258341-99-0P 279218-73-4P 279218-74-5P 336609-08-6P
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (synthesis of **photoacid generator** for pos.-working **photoresist compn.** used in manuf. of semiconductor integrated circuit element)

IT 336609-09-7P 336609-10-0P 336609-12-2P 336609-14-4P 336609-15-5P 336609-16-6P 336609-17-7P 336609-18-8P 336609-20-2P 336609-21-3P 336609-23-5P 336609-24-6P 336609-25-7P 336609-26-8P 336609-27-9P 336609-28-0P 336609-29-1P 336609-30-4P 336609-31-5P, Maleic anhydride-tert-butyl acrylate-allyltrimethylsilane copolymer
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses) (synthesis of resin having high soly. in alk. developer for **photoresist compn.** used in manuf. of semiconductor integrated circuit element)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

- (1) Crivello, J; US 5346803 A 1994 HCAPLUS
- (2) Crivello, J; JOURNAL OF POLYMER SCIENCE, PART A: POLYMER CHEMISTRY 1995, V33(3), P513 HCAPLUS
- (3) Fuiji Photo Film Co Ltd; EP 0952489 A 1999 HCAPLUS
- (4) Olin Microelectronic Chemical Inc; WO 9942903 A 1999 HCAPLUS
- (5) Siemens Aktiengesellschaft; EP 0919867 A 1999 HCAPLUS

L38 ANSWER 55 OF 77 HCAPLUS COPYRIGHT 2003 ACS

KATHLEEN FULLER EIC 1700/PARKER LAW 308-4290

AN 2001:299130 HCAPLUS
 DN 134:318692
 TI Positive **photoresist compositions** providing line patterns with excellent edge sharpness
 IN Mizutani, Kazuyoshi
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-039
 ICS G03F007-004; G03F007-075; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001117233	A2	20010427	JP 1999-298605	19991020
PRAI	JP 1999-298605		19991020		

AB The **comps.** comprise (A) acid-decomposable polymers comprising (i) $[\text{CH}_2\text{C}[(\text{CH}_2)_n\text{SiR}_1\text{R}_2\text{R}_3]\text{H}]$ [$\text{R}_1\text{-3} = (\text{halo})\text{alkyl}, \text{halo}, \text{alkoxy}, \text{trialkylsilyl}(\text{oxy}); n = 0, 1$] and (ii) $[\text{CH}_2\text{CY}(\text{LCO}_2\text{Q})]$ [$\text{Y} = \text{H}, \text{Me}, \text{cyano}, \text{Cl}; \text{L} = \text{single bond}, \text{bivalent linkage}; \text{Q} = \text{H}, \text{acid-decomposable groups}$] and/or $[\text{CH}(\text{COX}_2\text{L}_2\text{A}_2)\text{CH}(\text{COX}_1\text{L}_1\text{A}_1)]$ [$\text{X}_1, \text{X}_2 = \text{O}, \text{S}, \text{NH}, \text{NH}_2\text{SO}_2; \text{L}_1, \text{L}_2 = \text{single bond}, \text{bivalent linkage}; \text{A}_1 = \text{Q}, \text{CO}_2\text{Q}; \text{A}_2 = \text{H}, \text{cyano}, \text{OH}, \text{CO}_2\text{H}, \text{CO}_2\text{R}', \text{CONHR}'', \text{alkyl}(\text{oxy}), \text{cyclic hydrocarbyl}, \text{CO}_2\text{Q} (\text{R}', \text{R}'' = \text{alkyl})$], (B) **photoacid generators**, (C) org. solvents, (D) basic org. compds., (E) F- and/or Si-bearing surfactants and/or nonionic surfactants. The **photoacid generators** may generate org. sulfonic acids upon irradiation.

ST acid decomposable acrylic polymer pos **photoresist**; methylallylsilane maleic anhydride polymer **photoresist** sensitivity; edge sharpness pos **photoresist** acid decomposable; sulfonic acid forming **photoacid generator** **photoresist**

IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (KP 341, **surfactants**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)

IT Diazo compounds
 RL: CAT (Catalyst use); USES (Uses)
 (di- or ketosulfones, **photoacid generators**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)

IT Sulfones
 RL: CAT (Catalyst use); USES (Uses)
 (disulfones, **photoacid generators**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)

IT Sulfonates
 RL: CAT (Catalyst use); USES (Uses)
 (iminosulfonates, **photoacid generators**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)

IT Onium compounds
 RL: CAT (Catalyst use); USES (Uses)

- (iodonium, sulfonates, **photoacid generators**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT **Surfactants**
(nonionic; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT **Positive photoresists**
Surfactants
(pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT Sulfonic acids, uses
RL: CAT (Catalyst use); FMU (Formation, unclassified); FORM (Formation, nonpreparative); USES (Uses)
(pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT Sulfonium compounds
RL: CAT (Catalyst use); USES (Uses)
(sulfonates, **photoacid generators**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT 57835-99-1, Triphenylsulfonium hexafluorophosphate 153698-46-5
197447-16-8 287925-54-6, Bis(p-tert-amyphenyl)iodonium tosylate
RL: CAT (Catalyst use); USES (Uses)
(**photoacid generators**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT 484-47-9, 2,4,5-Triphenylimidazole 1122-58-3, 4-Dimethylaminopyridine 6674-22-2, DBU
RL: CAT (Catalyst use); USES (Uses)
(pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT 335427-33-3P 335427-34-4P 335427-35-5P 335430-18-7P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- IT 9016-45-9, Polyethylene glycol nonyl phenyl ether 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08
RL: MOA (Modifier or additive use); USES (Uses)
(**surfactants**; pos. **photoresists** contg. organosilyl-bearing polymers and showing good edge sharpness of line patterns)
- L38 ANSWER 56 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:133866 HCAPLUS
DN 134:186006
TI Photothermographic material containing metal alkoxide and inorganic or organic particles
IN Morita, Kiyokazu
PA Konica Co., Japan
SO Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03C001-498
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001051374	A2	20010223	JP 1999-223619	19990806
PRAI	JP 1999-223619		19990806		
AB	The material comprises .gtoreq.1 image forming layer contg. org. Ag salt particles, photosensitive Ag halide grains, and .gtoreq.1 kind of reducing agent on one side of a support, .gtoreq.1 of which contains (1) a metal alkoxide and (a) inorg. or org. particles or (b) a fluorine surfactant, or (2) a binder and a fluorine compd. with a group reacting with the binder. It showed improved antistatic capability, running properties, preventing image contamination and abrasive defects.				
ST	photothermog material metal alkoxide; inorg org particle photothermog material; fluorosurfactant binder photothermog material				
IT	Surfactants (fluorosurfactants; photothermog. material contg. metal alkoxide and fluorosurfactant)				
IT	Photothermographic copying (photothermog. material contg. metal alkoxide and inorg. or org. particles)				
IT	7631-86-9, Sunsphere H 121, uses RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (Sunsphere H 121, Sylysia 440; photothermog. material contg. metal alkoxide and inorg. or org. particles)				
IT	104559-01-5, Desmodur N 3300 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (hardener; photothermog. material contg. metal alkoxide and inorg. or org. particles)				
IT	96231-87-7, Surflon S 381 122303-48-4, Eftop EF 105 184827-05-2 251907-30-9 , KH 40 326891-90-1, F 120K RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (photothermog. material contg. metal alkoxide and fluorosurfactant)				
IT	555-31-7, Aluminum triisopropoxide 1992-48-9, Silicon tetraisopropoxide 5593-70-4, Titanium tetrabutoxide 9011-14-7, MX 300 113041-89-7, Super Pflex 200 127175-49-9, MF 160 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (photothermog. material contg. metal alkoxide and inorg. or org. particles)				
IT	251907-30-9 , KH 40 RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses) (photothermog. material contg. metal alkoxide and fluorosurfactant)				
RN	251907-30-9 HCAPLUS				
CN	Surflon KH 40 (9CI) (CA INDEX NAME)				

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 57 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:863755 HCAPLUS

DN 134:35041

TI Positive-working **photoresist composition** based on **photosensitive acid generators** for far ultraviolet ray exposure.

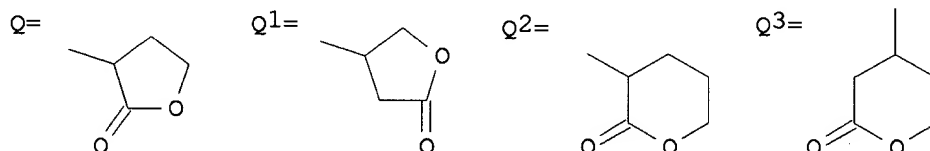
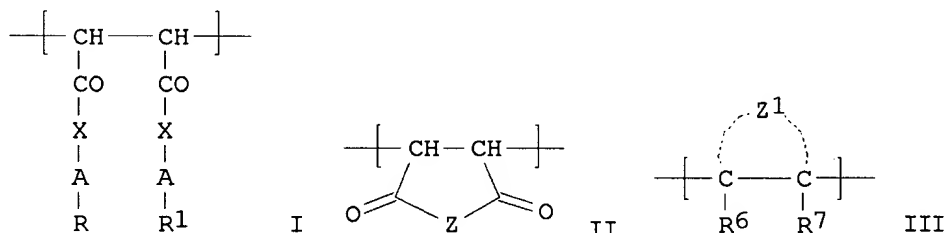
IN Sato, Kenichiro; Adegawa, Yutaka; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 52 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-039
 ICS G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000338672	A2	20001208	JP 1999-145223	19990525
PRAI	JP 1999-145223		19990525		

GI



AB Pos.-working **photoresist compns.** contain a copolymer having functional group which decomps. by action of an acid, a silicone or **fluorine** compd. type **surfactant**, a **photosensitive acid generator**, and optionally a N-contg. basic compd. The copolymer has repeating units of the formulas I (R, R1 = H, CN, OH, CO2H, CO2R2, CONHR3, CONHSO2R3, alkyl, alkoxy, cyclic hydrocarbon moiety, Q, Q1, Q2, Q3; Q-Q3 may be substituted with alkyl groups; X = O, S, NH, NHSO2, NHSO2NH; A = bond, divalent org. group; R2 = alkyl, cyclic hydrocarbon moiety, Q, Q1, Q2, Q3; R3 = alkyl, cyclic hydrocarbon moiety) or II (Z = O, NR4; R4 = H, OH, OSO2R5; R5 = alkyl, haloalkyl, cycloalkyl, camphor moiety) and III (Z1 = group of atoms required to complete alicyclic ring having at least two C atoms bonded to each other; R6, R7 = H, CN, halo, alkyl). The **resist compn.** show excellent sensitivity to Far UV (170-220nm) good resolving power, good adhesion to substrate, and produces very little scums upon development.

ST **photoresist compn photosensitive acid generator** pos working; **surfactant additive photoresist compn**

IT **Surfactants**
 (surfactant additives for **photosensitive acid**)

generator type)
IT Polysiloxanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(**surfactant**; additive for acid **generator type**
pos.-working **photoresist compn.**)
IT Positive **photoresists**
(**surfactants** for **photosensitive acid**
generator type)
IT 102-82-9, Tri-n-butylamine 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene
41556-26-7, Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate
RL: MOA (Modifier or additive use); USES (Uses)
(additive for acid **generator type** pos.-working
photoresist compn.)
IT 301525-10-0P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(far UV sensitive pos.-working **photoresist compn.**
contg. acid **generator, surfactant, and**
acid-decomposable polymer)
IT 301525-13-3 301525-15-5 301525-19-9 312386-49-5 312386-66-6
RL: TEM (Technical or engineered material use); USES (Uses)
(far UV sensitive pos.-working **photoresist compn.**
contg. acid **generator, surfactant, and**
acid-decomposable polymer)
IT 66003-78-9, Triphenylsulfonium triflate 312386-77-9
RL: TEM (Technical or engineered material use); USES (Uses)
(**photosensitive acid generator** for pos.-working
photoresist compn.)
IT 137462-24-9, Megafac F176 216679-67-3, Megafac R08
RL: MOA (Modifier or additive use); USES (Uses)
(**surfactant**; additive for acid **generator type**
pos.-working **photoresist compn.**)

L38 ANSWER 58 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:452613 HCAPLUS

DN 133:96786

TI Positive-working photosensitive **composition** containing lactone
methacrylate copolymer

IN Kodama, Kunihiro; Sato, Kenichiro; Aogo, Toshiaki; Kabe, Yasumasa

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

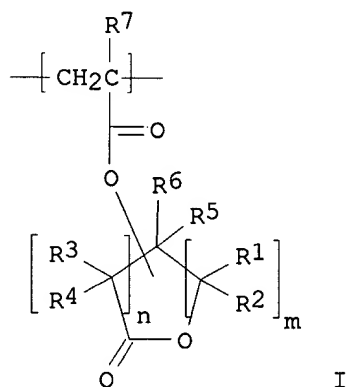
ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000187329	A2	20000704	JP 1998-367619	19981224
PRAI	JP 1998-367619		19981224		
GI					



- AB The title photosensitive **compn.** contains (a) a resin having a repeating unit I (R1-6 = H, alkyl, alkoxy, OH, halo; R7 = H, halo, CN, alkyl, haloalkyl, the ring structure links to the O atom by single bond at 1 of the R1-6 positions, .gtoreq.2 of R1-6 may link each other to form a ring; m, n = 0-2) and groups which are cleaved by the action of acid to increase the soly. to alk. developing solns., (b) a **photoacid generator** which **generates** an acid by irradiation with activating ray or radiation, and (c) a F-type and/or Si-type surfactant. The **compn.** shows high sensitivity toward light of wavelength .ltoreq.250 nm, esp. .ltoreq.220 nm and provides high resolu. **resist** patterns with good adhesion to substrate and dry etch **resistance**.
- ST **photoresist** lactone methacrylate copolymer; acid **generator photoresist**; fluoro silicon **surfactant photoresist**
- IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (KP 341; **photoresist compn.** contg. alkali-sol. resin, **photoacid generator**, and **surfactant**)
- IT Positive **photoresists**
Surfactants
 (photoresist **compn.** contg. alkali-sol. resin, **photoacid generator**, and **surfactant**)
- IT 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 69458-62-4, Megafac F171 216679-67-3, Megafac R 08
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (photoresist **compn.** contg. alkali-sol. resin, **photoacid generator**, and **surfactant**)
- IT 177080-68-1P, 2-Methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer 195000-67-0P, .alpha.-Methacryloyloxy-.gamma.-butyrolactone-2-methyl-2-adamantyl methacrylate copolymer 195000-69-2P 280552-10-5P
 RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photoresist **compn.** contg. alkali-sol. resin, **photoacid generator**, and **surfactant**)
- IT 66003-78-9, Triphenylsulfonium triflate

RL: TEM (Technical or engineered material use); USES (Uses)
 (photoresist compn. contg. alkali-sol. resin,
 photoacid generator, and surfactant)

L38 ANSWER 59 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:440246 HCAPLUS

DN 133:65984

TI Positive-working photoresist coating solution for manufacture of liquid crystal device and substrate using same

IN Kato, Tetsuya; Koshiyama, Jun

PA Tokyo Ohka Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-022

ICS G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000181055	A2	20000630	JP 1998-358912	19981217
	TW 473650	B	20020121	TW 1999-88120090	19991117
PRAI	JP 1998-358912	A	19981217		

AB The title photoresist coating soln. contains an alkali-sol. resin, a quinonediazide group-contg. compd., and a nonionic F/Si-type surfactant in which the F and Si contents are 10-25 and 3-10 wt.%, resp., which are dissolved in an org. solvent. The substrate comprises a resist coating formed by coating and drying the soln. on a square glass substrate. A photoresist coating without striation, uneven drying, and trace formed upon dropping the soln. can be formed from the soln.

ST photoresist fluoro silicon surfactant; quinonediazide photoresist liq crystal display

IT Surfactants

(fluorosurfactants, siloxane; photoresist compn. contg. alkali-sol. resin, quinonediazide compd., and fluoro-silicon surfactant for manuf. of liq. crystal display)

IT Phenolic resins, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(novolak; photoresist compn. contg. alkali-sol. resin, quinonediazide compd., and fluoro-silicon surfactant for manuf. of liq. crystal display)

IT Liquid crystal displays

Positive photoresists

(photoresist compn. contg. alkali-sol. resin, quinonediazide compd., and fluoro-silicon surfactant for manuf. of liq. crystal display)

IT 165967-96-4, X-70-093

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(photoresist compn. contg. alkali-sol. resin, quinonediazide compd., and fluoro-silicon surfactant for manuf. of liq. crystal display)

IT 123-86-4, Butyl acetate

RL: NUU (Other use, unclassified); USES (Uses)

(photoresist compn. contg. alkali-sol. resin, quinonediazide compd., and fluoro-silicon surfactant for manuf. of liq. crystal display)

display)

IT 27029-76-1, m-Cresol-p-cresol-formaldehyde copolymer 107761-81-9,
2,3,4,4'-Tetrahydroxy benzophenone naphthoquinone-1,2-diazido-5-sulfonate
RL: TEM (Technical or engineered material use); USES (Uses)
(photoresist **compn.** contg. alkali-sol. resin, quinonediazide
compd., and fluoro-silicon surfactant for manuf. of liq. crystal
display)

IT 97-64-3, Ethyl lactate 84540-57-8, Propylene glycol monomethyl ether
acetate
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; photoresist **compn.** contg. alkali-sol. resin,
quinonediazide compd., and fluoro-silicon surfactant for manuf. of liq.
crystal display)

L38 ANSWER 60 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:399006 HCAPLUS
DN 133:51206
TI **Resist** material and pattern formation using same
IN Watanabe, Satoshi; Sakurada, Toyohisa; Yanagi, Yoshitaka; Nagura,
Shigehiro; Ishihara, Toshinobu
PA Shin-Etsu Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-004
ICS G03F007-00; G03F007-038; G03F007-039
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000162768	A2	20000616	JP 1999-255113	19990909
PRAI	JP 1998-267855	A	19980922		
OS	MARPAT 133:51206				

AB The title **resist** material contains a **F-type**
surfactant which decreases the **contact angle**
of the interface between the surface of the material coated on a substrate
and either water or alk. developing solns. with increasing the content.
The material is coated on a substrate, heat-treated, exposed through a
photomask to high energy ray of wavelength .ltoreq.500 nm, x-ray or
electron beam, and developed with a developing soln. after heat treatment,
if necessary, to form a pattern. The material shows improved coatability
and storage stability and provides a coating with good uniformity in
thickness and wettability to alk. developing solns.

ST radiation **resist fluorosurfactant**

IT **Surfactants**
(**fluorosurfactants**; radiation-sensitive **resist**
compn. contg. **fluorosurfactant**)

IT **Resists**
(radiation-sensitive; radiation-sensitive **resist**
compn. contg. **fluorosurfactant**)

IT 251907-30-9, KH 40 275364-62-0, KH 20 (
surfactant) 275364-64-2, KH 30 (**surfactant**)
RL: MOA (**Modifier or additive use**); TEM (Technical or engineered
material use); USES (Uses)
(radiation-sensitive **resist compn.** contg.

applicants

fluorosurfactant)

IT 251907-30-9, KH 40 275364-62-0, KH 20 (
surfactant) 275364-64-2, KH 30 (**surfactant**)
 RL: MOA (Modifier or additive use); TEM (Technical or engineered
 material use); USES (Uses)
 (radiation-sensitive **resist compn.** contg.

fluorosurfactant)

RN 251907-30-9 HCAPLUS
 CN Surflon KH 40 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 275364-62-0 HCAPLUS
 CN KH 20 (surfactant) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 275364-64-2 HCAPLUS
 CN KH 30 (surfactant) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 61 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 2000:67678 HCAPLUS
 DN 132:130026
 TI Positive-working resist **composition** suited for use in deep UV
 ray exposure
 IN Aogo, Toshiaki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 44 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-039
 ICS G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000029219	A2	20000128	JP 1998-197730	19980713
PRAI	JP 1998-197730		19980713		
AB	The title resist compn. contains (a) a compd. generating an acid upon activating ray or radiation irradiation, (b) a resin having polycyclic alicyclic groups and CO ₂ H groups, (c) a compd. having .gtoreq.2 groups CR1R2C:CR3Z [R1-3 = H, (substituted) alkyl, (substituted) cycloalkyl, 2 of R13 may link each other to form a ring structure comprising 3-8 C atoms and heteroatoms; Z = O, S, SO ₂ , NH], (d) a cyclic aliph. org. carboxylic acid with mol. wt. .ltoreq.1000 and/or a naphthalene ring-contg. org. carboxylic acid, (e) a N-contg. basic compd., and (f) a F-type and/or Si-type surfactant. The compn. shows improved developability and provides a resolu. pattern with high residual film rate and good profile using deep UV rays, esp., ArF excimer lasers.				
ST	UV resist alicyclic polymer carboxy group; enol ether compd UV resist; cyclic carboxylic acid UV resist; nitrogen basic compd resist; fluoro silicone surfactant resist				
IT	Polysiloxanes, uses RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)				

(KP 341; deep UV-sensitive pos. resist **compn.**)

IT **Photoresists**
(UV; deep UV-sensitive pos. resist **compn.**)

IT **Surfactants**
(**fluorosurfactants**; deep UV-sensitive pos. resist **compn.**)

IT 66003-78-9, Triphenylsulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(acid generator; deep UV-sensitive pos. resist **compn.**)

IT 211566-71-1P 216308-37-1P 216308-40-6P 216308-41-7P 216308-42-8P
RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(deep UV-sensitive pos. resist **compn.**)

IT 86-55-5, 1-Naphthalenecarboxylic acid 100-97-0, Hexamethylenetetramine,
uses 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 828-51-3,
1-Adamantanecarboxylic acid 1076-97-7, 1,4-Cyclohexanedicarboxylic acid
3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2,
1,8-Diazabicyclo[5.4.0]-7-undecene 137462-24-9, Megafac F176
193024-52-1, Rikacid HBH 216308-35-9 216308-38-2 216308-43-9
216679-67-3, Megafac R08
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(deep UV-sensitive pos. resist **compn.**)

IT 170969-48-9P, tert-Butyl methacrylate-methacrylic acid-tricyclo decanyl
methacrylate copolymer 181531-12-4P 188023-55-4P, 1-Adamantyl
methacrylate-methacrylic acid copolymer 194991-29-2P 195044-30-5P
199105-60-7P, Methacrylic acid-tricyclo decanyl methacrylate copolymer
216308-45-1P 216308-48-4P 216308-51-9P 216308-53-1P 216308-54-2P
216308-55-3P 256346-98-2P 256346-99-3P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(deep UV-sensitive pos. resist **compn.**)

IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 110-75-8,
2-Chloroethylvinyl ether 764-48-7, 2-Hydroxyethyl vinyl ether
3813-52-3, 5-Norbornene-2,3-dicarboxylic acid 4098-71-9, Isophorone
diisocyanate 4271-48-1, 2-Hydroxyethyl vinyl sulfone 5001-18-3,
1,3-Dihydroxyadamantane 26160-83-8, Bis(hydroxymethyl)tricyclo[5.2.1.0.2,
6]decane
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of enol ether compd.)

L38 ANSWER 62 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:67677 HCAPLUS
DN 132:130025
TI Positive-working resist **composition** suited for use in deep
ultraviolet ray exposure
IN Aogo, Toshiaki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM G03F007-039
ICS G03F007-004; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000029218	A2	20000128	JP 1998-197729	19980713
PRAI	JP 1998-197729		19980713		
AB	The title resist compn. contains (a) a compd. generating an acid upon activating ray or radiation irradiation, (b) a resin having polycyclic alicyclic groups and CO ₂ H groups, (c) a compd. having .gtoreq.2 groups CR1R2C:CR3Z [R1-3 = H, (substituted) alkyl, (substituted) cycloalkyl, 2 of R13 may link each other to form a ring structure comprising 3-8 C atoms and heteroatoms; Z = O, S, SO ₂ , NH], (d) a N-contg. basic compd., and (e) a F-type and/or Si-type surfactant. The compn. shows improved developability and provides a pattern with high residual film rate and good profile using deep UV rays, esp., ArF excimer lasers.				
ST	pos resist alicyclic polymer carboxy group; enol ether compd UV resist; surfactant fluoro silicone resist; nitrogen basic compd resist				
IT	Polysiloxanes, uses RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (KP-341; deep UV-sensitive pos. resist compn.)				
IT	Photoresists (UV; deep UV-sensitive pos. resist compn.)				
IT	Surfactants (fluorosurfactants ; deep UV-sensitive pos. resist compn.)				
IT	66003-78-9, Triphenylsulfonium triflate RL: TEM (Technical or engineered material use); USES (Uses) (acid generator; deep UV-sensitive pos. resist compn.)				
IT	211566-71-1P	216308-37-1P	216308-40-6P	216308-41-7P	216308-42-8P
	RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (deep UV-sensitive pos. resist compn.)				
IT	100-97-0, Hexamethylenetetramine, uses 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 3001-72-7, 1,5-Diazabicyclo[4.3.0]-5-nonene 6674-22-2, 1,8-Diazabicyclo[5.4.0]-7-undecene 137462-24-9, Megafac F176 216308-35-9 216308-38-2 216308-43-9 216679-67-3, Megafac R08 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (deep UV-sensitive pos. resist compn.)				
IT	170969-48-9P, tert-Butyl methacrylate-methacrylic acid-tricyclo decanyl methacrylate copolymer 181531-12-4P 188023-55-4P, 1-Adamantyl methacrylate-methacrylic acid copolymer 194991-29-2P 195044-30-5P 199105-60-7P, Methacrylic acid-tricyclodecanyl methacrylate copolymer 216308-45-1P 216308-48-4P 216308-51-9P 216308-53-1P 216308-54-2P 216308-55-3P 256346-98-2P 256346-99-3P RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (deep UV-sensitive pos. resist compn.)				
IT	80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 110-75-8, 2-Chloroethylvinyl ether 764-48-7, 2-Hydroxyethyl vinyl ether 3813-52-3, 5-Norbornene-2,3-dicarboxylic acid 4098-71-9, Isophorone diisocyanate 4271-48-1, 2-Hydroxyethyl vinyl sulfone 5001-18-3, 1,3-Dihydroxyadamantane 26160-83-8, Bis(hydroxymethyl)tricyclo[5.2.1.0.2,6]decane RL: RCT (Reactant); RACT (Reactant or reagent) (prepn. of enol ether compd.)				

L38 ANSWER 63 OF 77 HCAPLUS COPYRIGHT 2003 ACS
AN 2000:67675 HCAPLUS

DN 132:130024
 TI Positive-working resist **composition** suited for use in deep ultraviolet ray exposure
 IN Aogo, Toshiaki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 44 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-039
 ICS G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000029216	A2	20000128	JP 1998-194566	19980709
PRAI	JP 1998-194566		19980709		

AB The title resist **compn.** contains (a) a compd. generating an acid upon activating ray or radiation irradiation, (b) a resin having polycyclic alicyclic groups and CO₂H groups, (c) a compd. having .gtoreq.2 groups CR1R2C:CR3Z [R1-3 = H, (substituted) alkyl, (substituted) cycloalkyl, 2 of R1-3 may link each other to form a ring structure comprising 3-8 C atoms and heteroatoms; Z = O, S, SO₂, NH], (d) a compd. having a N-contg. basic group and acidic group in its mol., and (e) a F-type and/or Si-type surfactant. The **compn.** shows improved developability and provides a resolu. pattern with high residual film rate and good profile using deep UV rays, esp., ArF excimer lasers.

ST deep UV resist enol ether compd; alicyclic carboxy group polymer resist; basic acidic compd resist; fluoro silicone surfactant resist

IT Polysiloxanes, uses
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (KP 341; deep UV-sensitive pos. resist **compn.**)

IT **Photoresists**
 (UV; deep UV-sensitive pos. resist **compn.**)

IT Surfactants
 (**fluorosurfactants**; deep UV-sensitive pos. resist **compn.**)

IT 66003-78-9, Triphenylsulfonium triflate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (acid generator; deep UV-sensitive pos. resist **compn.**)

IT 211566-71-1P 216308-37-1P 216308-40-6P 216308-41-7P 216308-42-8P
 RL: MOA (Modifier or additive use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (deep UV-sensitive pos. resist **compn.**)

IT 59-67-6, Nicotinic acid, uses 118-46-7, 8-Amino-2-naphthol 118-92-3, o-Aminobenzoic acid 5959-52-4, 3-Amino-2-naphthoic acid 137462-24-9, Megafac F176 216308-35-9 216308-38-2 216308-43-9 216679-67-3, Megafac R08
 RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
 (deep UV-sensitive pos. resist **compn.**)

IT 170969-48-9P, tert-Butyl methacrylate-methacrylic acid-tricyclo decanyl methacrylate copolymer 181531-12-4P 188023-55-4P, 1-Adamantyl methacrylate-methacrylic acid copolymer 194991-29-2P 195044-30-5P 199105-60-7P, Methacrylic acid-tricyclo decanyl methacrylate copolymer

216308-45-1P 216308-48-4P 216308-51-9P 216308-53-1P 216308-54-2P
 216308-55-3P 256346-98-2P 256346-99-3P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(deep UV-sensitive pos. resist **compn.**)

IT 80-04-6, 2,2-Bis(4-hydroxycyclohexyl)propane 110-75-8,
 2-Chloroethylvinyl ether 764-48-7, 2-Hydroxyethyl vinyl ether
 3813-52-3, 5-Norbornene-2,3-dicarboxylic acid 4098-71-9, Isophorone
 diisocyanate 4271-48-1, 2-Hydroxyethyl vinyl sulfone 5001-18-3,
 1,3-Dihydroxyadamantane 26160-83-8, Bis(hydroxymethyl)tricyclo[5.2.1.0²,
 6]decane

RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of enol ether compd.)

L38 ANSWER 64 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 2000:34314 HCAPLUS

DN 132:100452

TI Positively working photosensitive polymer **composition** providing
 pattern with improved profile

IN Kabe, Yasumasa; Sato, Kenichiro

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)

Section cross-reference(s): 35, 38, 46, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000010286	A2	20000114	JP 1998-174889	19980622
PRAI	JP 1998-174889		19980622		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The **compn.** comprises (A) a polymer with a alicyclic skeleton,
 which shows water soly. when decompd. by an acid, (B) a low-mol. and
 acid-decomposable compd. having naphthalenyl structure I (Z = alicyclic
 hydrocarbylene II, III, IV, V, VI; R1 = acid-decomposable group; R2 = H,
 OH, Cl-4 alkyl, alkoxy; n, m = 1, 2) with mol. wt. .ltoreq.3000 and an
 acid-decomposable group, whose alkali soly. is increased by acid, (C) a
photosensitive acid-generating agent, (D) N-contg. basic
 compd., and (E) a F- and/or a Si-contg. surfactant. The **compn.**
 shows improved resolving power to ArF excimer laser exposure and dry
 etching **resistance** for precise pattern formation.

ST pos working photosensitive polymer **compn**; alicyclic structure
 polymer acid decomposable; **photosensitive acid**
generating agent polymer **compn**; **fluorine compd**
surfactant pos working **photoresist**; silicon compd
 surfacetant pos working **photoresist**

IT Etching

(dry, -**resistant**; pos.-working **photoresist** contg.
acid-decomposable alicyclic structure polymer for patterning under
excimer laser exposure)

IT **Surfactants**

(in pos.-working **photoresist** contg. acid-decomposable
alicyclic structure polymer for patterning under excimer laser
exposure)

IT Excimer lasers

Positive **photoresists**

Semiconductor device fabrication

(pos.-working **photoresist** contg. acid-decomposable alicyclic
structure polymer for patterning under excimer laser exposure)

IT Polyalkenamers

RL: TEM (Technical or engineered material use); USES (Uses)

(pos.-working **photoresist** contg. acid-decomposable alicyclic
structure polymer for patterning under excimer laser exposure)

IT 66003-78-9, Triphenylsulfonium triflate

RL: CAT (Catalyst use); USES (Uses)

(acid-**generating**; in pos.-working **photoresist**
contg. acid-decomposable alicyclic structure polymer for patterning
under excimer laser exposure)

IT 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 3001-72-7, 1,5-
Diazabicyclo[4.3.0]-5-nonene 6674-22-2

RL: MOA (Modifier or additive use); USES (Uses)

(in pos.-working **photoresist** contg. acid-decomposable
alicyclic structure polymer for patterning under excimer laser
exposure)

IT 110-87-2DP, 3,4-Dihydro-2H-pyran, ether with dicyclopentadiene-naphthaol
copolymer 5292-43-3DP, tert-Butyl bromoacetate, ether with
dicyclopentadiene-naphthaol copolymer 148273-07-8DP,
Dicyclopentadiene-.alpha.-naphthol copolymer, ether with tert-Bu
bromoacetate 169223-77-2P 170283-35-9P 195143-37-4P 225111-71-7P
254433-04-0P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos.-working **photoresist** contg. acid-decomposable alicyclic
structure polymer for patterning under excimer laser exposure)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R08

RL: MOA (Modifier or additive use); USES (Uses)

(**surfactant**; in pos.-working **photoresist** contg.
acid-decomposable alicyclic structure polymer for patterning under
excimer laser exposure)

L38 ANSWER 65 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:774206 HCAPLUS

DN 132:23501

TI Thermosetting resin compositions for compression molding

IN Kitakawa, Yoshinori

PA Sekisui Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F290-00

ICS B29C043-02; C08F002-44; C08L067-06

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO. DATE

 PI JP 11335428 A2 19991207 JP 1998-146144 19980527
 PRAT JP 1998-146144 19980527
 AB Title compns., useful for antisoiling bathtubs, etc., comprise 100 parts
 mixt. of unsatd. polyesters and vinyl monomers and 0.1-25 parts F-contg.
 surfactants. Thus, 24% (to total) of RS 480PB549 (chopped strand) was
 soaked in a mixt. of hydrogenated bisphenol-based unsatd. polyester (40%
 styrene) 30, isophthalic acid-based unsatd. polyester (40% styrene) 20,
 ortho-type unsatd. polyester (40% styrene) 20, polystyrene (40% styrene)
 30, tert-Bu peroxybenzoate 1.4, NS 100 (CaCO₃) 135, SR 1 (powd. TiO₂) 6,
 Kyowamag 150 (MgO) 1.5, and Zn stearate 5 parts, and then treated with 5
 parts S 393 (perfluoroalkyl-contg. oligomer) at 40.degree. for 24 h. A
 stack of 12 sheet molding compds. thereby obtained was compression molded
 to give a plate showing gloss retention 75.3% after half-year use in a
 bath room.
 ST antisoiling bathtub unsatd polyester fluoro surfactant
 IT Perfluoro compounds
 Perfluoro compounds
 RL: MOA (Modifier or additive use); USES (Uses)
 (alcs., ethoxylated; unsatd. polyester-fluoro surfactant compns. for
 antisoiling bathtubs)
 IT Surfactants
 (fluorosurfactants; unsatd. polyester-fluoro surfactant compns. for
 antisoiling bathtubs)
 IT Reinforced plastics
 RL: PRP (Properties); TEM (Technical or engineered material use); USES
 (Uses)
 (glass fiber-reinforced; unsatd. polyester-fluoro surfactant compns.
 for antisoiling bathtubs)
 IT Alcohols, uses
 Alcohols, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (perfluoro, ethoxylated; unsatd. polyester-fluoro surfactant compns.
 for antisoiling bathtubs)
 IT Polyoxyalkylenes, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (perfluoroalkyl ethers; unsatd. polyester-fluoro surfactant compns. for
 antisoiling bathtubs)
 IT Bathtubs
 (unsatd. polyester-fluoro surfactant compns. for antisoiling bathtubs)
 IT Polyesters, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (unsatd., styrene-crosslinked; unsatd. polyester-fluoro surfactant
 compns. for antisoiling bathtubs)
 IT 100-42-5, Styrene, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (crosslinking agents for unsatd. polyesters; unsatd. polyester-fluoro
 surfactant compns. for antisoiling bathtubs)
 IT 25322-68-3D, Polyethylene glycol, perfluoroalkyl ethers 113189-63-2,
 Surflon S 393 251907-30-9, KH 40 (surfactant)
 RL: MOA (Modifier or additive use); USES (Uses)
 (unsatd. polyester-fluoro surfactant compns. for antisoiling bathtubs)
 IT 121-91-5D, Isophthalic acid, unsatd. polyesters
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (unsatd. polyester-fluoro surfactant compns. for antisoiling bathtubs)
 IT 251907-30-9, KH 40 (surfactant)

RL: MOA (Modifier or additive use); USES (Uses)
 (unsatd. polyester-fluoro surfactant compns. for antisoiling bathtubs)

RN 251907-30-9 HCAPLUS

CN Surflon KH 40 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 66 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:752377 HCAPLUS

DN 132:7565

TI Positive-working photosensitive resin **composition** useful in
 production of semiconductor devices

IN Kawabe, Yasumasa; Sato, Kenichiro; Aogo, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)

Section cross-reference(s): 38, 76

FAN.CNT 1

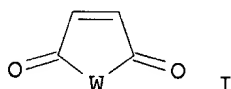
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11327145	A2	19991126	JP 1998-132291	19980514
PRAI	JP 1998-132291		19980514		
AB	The title resin compn. contains (a) a cyclic aliph. hydrocarbon skeleton structure-contg. polymer that is decompd. by the action of acid to become alkali-sol., (b) a compd. that generates an acid upon active ray or radiation irradiation, (c) a sulfonamide structure-contg. compd. with mol. wt. .ltoreq.1000, (d) a N-contg. basic compd., and (e) a F-type and/or Si-type surfactant. The compn. shows improved developability and provides a high resolu. pattern with good profile by using deep UV rays, esp., ArF excimer laser beams and is useful for manuf. of semiconductor devices.				
ST	photoresist alkali soluble polymer alicyclic hydrocarbon; sulfonamide photoresist; nitrogen basic compd photoresist; surfactant photoresist; semiconductor device photoresist				
IT	Polysiloxanes, uses				
	RL: TEM (Technical or engineered material use); USES (Uses) (KP 341; photoresist compn. contg. alkali-sol. polymer, acid generator, sulfonamide, basic compd., and surfactant)				
IT	Surfactants (fluorosurfactants; photoresist compn. contg. alkali-sol. polymer, acid generator, sulfonamide, basic compd., and surfactant)				
IT	Photoresists (photoresist compn. contg. alkali-sol. polymer, acid generator, sulfonamide, basic compd., and surfactant)				
IT	122752-67-4, tert-Butyl cholate RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (photoresist compn. contg. alkali-sol. polymer, acid generator, sulfonamide, basic compd., and surfactant)				
IT	100-97-0, uses	280-57-9, 1,4-Diazabicyclo[2.2.2]octane	3001-72-7,		
	1,5-Diazabicyclo[4.3.0]-5-nonene	6674-22-2	18271-17-5	41595-29-3	

66003-78-9, Triphenylsulfonium triflate 137462-24-9, Megafac F176
 169223-77-2, 1-Adamantyl acrylate-tert-butyl acrylate copolymer
 195143-37-4, Acrylic acid-tert-butyl acrylate-maleic anhydride-norbornene
 copolymer 216679-67-3, Megafac R08 222170-69-6 251294-50-5
 251294-52-7 251294-53-8

RL: TEM (Technical or engineered material use); USES (Uses)
 (photoresist **compn.** contg. alkali-sol. polymer, acid
 generator, sulfonamide, basic compd., and surfactant)

L38 ANSWER 67 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 1999:752361 HCAPLUS
 DN 132:17138
 TI Positive photosensitive **compositions** for hard image formation
 IN Kawamura, Koichi
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 26 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS G03F007-023; G03F007-033
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 46
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 11327126	A2	19991126	JP 1998-127705	19980511
PRAI	JP 1998-127705		19980511		
GI					



AB The **compns.** contain 90% copolymers of (A) fluorinated aliph.
 group-contg. addn.-polymerizable monomers, (B) CO₂H-contg.
 addn.-polymerizable monomers, and (C) CH₂CA(COWR₅), CH₂CA(OCOR₆), CH₂:CAU,
 or I [W = O, NR₃; R₃ = H, alkyl, aryl; R₅ = (un)substituted alkyl or aryl;
 R₆ = alkyl, aryl; U = cyano, aryl, alkoxy, aryloxy, acyloxymethyl,
 N-contg. heterocyclic group, CH₂OCOR₆; A = H, halo, alkyl]. The
compns. are useful for manuf. of lithog. printing plates. The
compns. give hard images without decrease of sensitivity.
 ST fluoropolymer pos photoresist hard image formation; carboxy acrylic
 fluoropolymer **surfactant** pos photoresist; lipophilic group
 acrylic fluoropolymer pos photoresist
 IT Fluoropolymers, preparation
 RL: DEV (Device component use); IMF (Industrial manufacture); MOA
 (Modifier or additive use); PREP (Preparation); USES (Uses)
 (acrylic, carboxy-contg.; pos. **photoresists** carboxy-contg.
 fluoropolymer **surfactants** for hard image formation)
 IT **Surfactants**
 (fluorosurfactants; pos. **photoresists**
 carboxy-contg. fluoropolymer **surfactants** for hard image
 formation)

IT Lithographic plates
Positive **photoresists**
(pos. **photoresists** carboxy-contg. fluoropolymer
surfactants for hard image formation)

IT **251355-97-2P**, 2-Ethylhexyl methacrylate-2-(perfluorooctyl)ethyl
acrylate-4-vinylbenzoic acid copolymer **251355-98-3P**
251355-99-4P 251356-00-0P
RL: DEV (Device component use); IMF (Industrial manufacture); MOA
(Modifier or additive use); PREP (Preparation); USES (Uses)
(pos. **photoresists** carboxy-contg. fluoropolymer
surfactants for hard image formation)

IT **251355-97-2P**, 2-Ethylhexyl methacrylate-2-(perfluorooctyl)ethyl
acrylate-4-vinylbenzoic acid copolymer **251355-98-3P**
251356-00-0P
RL: DEV (Device component use); IMF (Industrial manufacture); MOA
(Modifier or additive use); PREP (Preparation); USES (Uses)
(pos. **photoresists** carboxy-contg. fluoropolymer
surfactants for hard image formation)

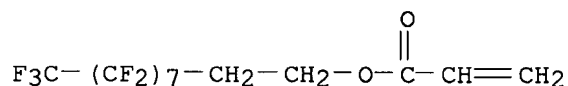
RN 251355-97-2 HCAPLUS

CN Benzoic acid, 4-ethenyl-, polymer with 2-ethylhexyl 2-methyl-2-propenoate
and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate
(9CI) (CA INDEX NAME)

CM 1

CRN 27905-45-9

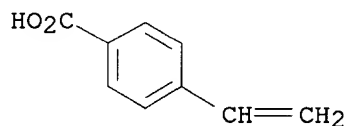
CMF C13 H7 F17 O2



CM 2

CRN 1075-49-6

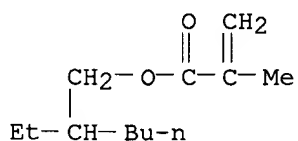
CMF C9 H8 O2



CM 3

CRN 688-84-6

CMF C12 H22 O2



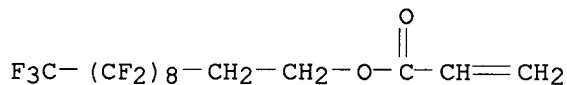
RN 251355-98-3 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, mono[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester, polymer with ethenylbenzene, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-nonadecafluoroundecyl 2-propenoate and octyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 41328-01-2

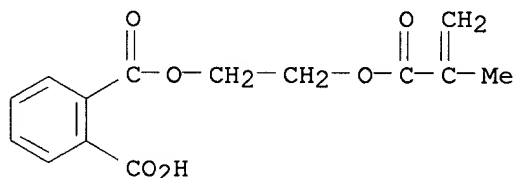
CMF C14 H7 F19 O2



CM 2

CRN 27697-00-3

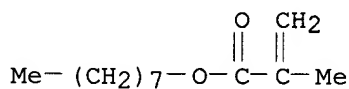
CMF C14 H14 O6



CM 3

CRN 2157-01-9

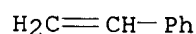
CMF C12 H22 O2



CM 4

CRN 100-42-5

CMF C8 H8



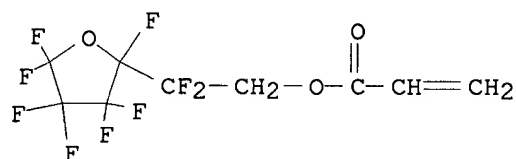
RN 251356-00-0 HCAPLUS

CN 1,2-Benzenedicarboxylic acid, mono[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl] ester, polymer with 2,2-difluoro-2-(2,3,3,4,4,5,5-heptafluorotetrahydro-2-furanyl)ethyl 2-propenoate and 4-methylphenyl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 211634-85-4

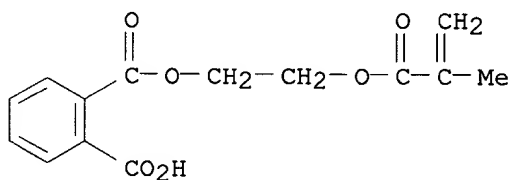
CMF C9 H5 F9 O3



CM 2

CRN 27697-00-3

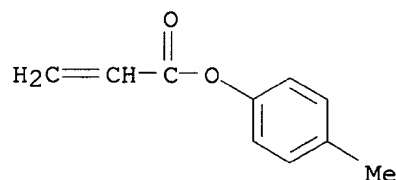
CMF C14 H14 O6



CM 3

CRN 2374-55-2

CMF C10 H10 O2



L38 ANSWER 68 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:545230 HCAPLUS

DN 131:191872

TI Surface antireflection coating material for photoresist
 IN Miyasawa, Yasuo; Yamaguchi, Tetsuhiko
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-11
 ICS H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11231545	A2	19990827	JP 1998-31420	19980213
PRAI	JP 1998-31420		19980213		
AB	The title material contains a water-sol. N-vinylcarboxylic acid amide-type polymer having a repeating structural unit CH ₂ CH(NR ₁ COR ₂) (R ₁ , R ₂ = H, Me, Et, Pr, iso-Pr) and a surfactant and the compn. has a refractive index of 1.2-1.4. The compn. is highly sol. in water and applicable to chem. amplified resists and shows low refractive index, high transparency, and improved thermal resistance.				
ST	photoresists surface antireflection coating vinylacetamide polymer; surfactant photoresist antireflection coating material				
IT	Antireflective films				
	Photoresists				
	Surfactants				
	(surface antireflection coating material contg. vinyl polymer with amide group and surfactant for photoresist)				
IT	335-67-1 , Perfluorooctanoic acid				
	RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)				
	(Eftop EF 201; surface antireflection coating material contg. vinyl polymer with amide group and surfactant for photoresist)				
IT	64-19-7D, Acetic acid, fluorinated, uses 335-99-9 , 1H,1H,7H-Dodecafluoro-1-heptanol 1493-13-6, Trifluoromethanesulfonic acid 2235-54-3, Ammonium laurylsulfate 27176-87-0, Dodecylbenzenesulfonic acid				
	RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)				
	(surface antireflection coating material contg. vinyl polymer with amide group and surfactant for photoresist)				
IT	26616-03-5P, Poly(N-vinyl-N-methylacetamide) 28408-65-3P, Poly(N-vinylacetamide)				
	RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)				
	(surface antireflection coating material contg. vinyl polymer with amide group and surfactant for photoresist)				
IT	335-67-1 , Perfluorooctanoic acid				
	RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)				
	(Eftop EF 201; surface antireflection coating material contg. vinyl polymer with amide group and surfactant for photoresist)				
RN	335-67-1 HCAPLUS				
CN	Octanoic acid, pentadecafluoro- (8CI, 9CI) (CA INDEX NAME)				

F₃C- (CF₂)₆-CO₂H

IT **335-99-9**, 1H,1H,7H-Dodecafluoro-1-heptanol
 RL: DEV (Device component use); MOA (Modifier or additive use); USES
 (Uses)
 (surface antireflection coating material contg. vinyl polymer with
 amide group and **surfactant for photoresist**)
 RN 335-99-9 HCAPLUS
 CN 1-Heptanol, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro- (6CI, 7CI, 8CI, 9CI)
 (CA INDEX NAME)

HO-CH₂- (CF₂)₅-CHF₂

L38 ANSWER 69 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 1998:742698 HCAPLUS
 DN 129:349064
 TI Positive-working photoresist useful in production of semiconductor device
 IN Takahara, Masaki
 PA Toshiba Corp., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS G03F007-004; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)
 Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10307385	A2	19981117	JP 1997-118037	19970508
PRAI	JP 1997-118037		19970508		
AB	In the title photoresist using a non-Et cellosolve acetate-type solvent in which the solutes and photosensitive materials are dissolved, a F-type surfactant is added to the solvent. The non-Et cellosolve acetate-type solvent may be a 8:2 mixt. of Et lactate and Bu acetate. The photoresist used in a lithog. process for prodn. of semiconductor devices can form a resist film with improved uniformity in thickness on a semiconductor wafer.				
ST	photoresist fluoro surfactant semiconductor device manuf; butyl acetate solvent photoresist; ethyl lactate solvent photoresist				
IT	Surfactants (fluorosurfactants; photoresist compn. contg. fluorine-type surfactant using Et lactate and Bu acetate solvent for manuf. of semiconductor devices)				
IT	Positive photoresists (photoresist compn. contg. fluorine-type surfactant using Et lactate and Bu acetate solvent)				
IT	Semiconductor devices (photoresist compn. contg. fluorine-type surfactant using Et lactate and Bu acetate solvent for manuf. of semiconductor devices)				

IT 97-64-3, Ethyl lactate 123-86-4, Butyl acetate
 RL: NUU (Other use, unclassified); USES (Uses)
 (solvent; photoresist **compn.** contg. fluorine-type surfactant
 using Et lactate and Bu acetate solvent for manuf. of semiconductor
 devices)

L38 ANSWER 70 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:84999 HCAPLUS

DN 126:96939

TI Poly(vinylpyrrolidone)-based **composition** for antireflection film
 and patterning by using it

IN Kasuya, Kei; Hashimoto, Michiaki

PA Hitachi Chemical Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS G03F007-11; G03F007-38; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
 Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08292562	A2	19961105	JP 1995-100854	19950425
PRAI	JP 1995-100854		19950425		

AB The **compn.** contains a poly(vinylpyrrolidone)-based resin, a
 F-type water-sol. **surfactant**, and a water-sol. F compd.. A
 pattern is formed by a process including following successive steps; (1)
 forming a resist film, (2) forming an antireflection film by using the
 above **compn.**, (3) exposing the pattern, and (4) developing. The
 antireflection film is easily removed in developing and the resulting
 pattern improved dimensional stability.

ST polyvinylpyrrolidone antireflection film patterning photoresist; fluorine
 water sol **surfactant** antireflection film; fluoroethylamine
 hydrochloric acid salt antireflection film

IT **Photoresists**

Surfactants

(poly(vinylpyrrolidone)-based resin contg. water-sol. fluorine
surfactant and fluorine compd. as antireflection film in
 photoresist)

IT 9003-39-8, Poly(vinylpyrrolidone)

RL: TEM (Technical or engineered material use); USES (Uses)

(P 0696; poly(vinylpyrrolidone)-based resin contg. water-sol. fluorine
surfactant and fluorine compd. as antireflection film in
 photoresist)

IT 185766-39-6, RG 8018P20

RL: TEM (Technical or engineered material use); USES (Uses)

(photoresist; poly(vinylpyrrolidone)-based resin contg. water-sol.
 fluorine **surfactant** and fluorine compd. as antireflection
 film in photoresist)

IT 354-28-9 373-88-6, 2,2,2-Trifluoroethylamine hydrochloride

376-73-8, Hexafluoroglutaric acid

RL: MOA (Modifier or additive use); USES (Uses)

(poly(vinylpyrrolidone)-based resin contg. water-sol. fluorine
surfactant and fluorine compd. as antireflection film in
 photoresist)

IT 29081-56-9, Fluorad FC 93

RL: MOA (Modifier or additive use); USES (Uses)
 (surfactant, Fluorad FC 93; poly(vinylpyrrolidone)-based resin contg. water-sol. fluorine **surfactant** and fluorine compd. as antireflection film in photoresist)

IT 1652-63-7, Fluorad FC 135
 RL: MOA (Modifier or additive use); USES (Uses)
 (surfactant; poly(vinylpyrrolidone)-based resin contg. water-sol. fluorine **surfactant** and fluorine compd. as antireflection film in photoresist)

IT 376-73-8, Hexafluoroglutaric acid
 RL: MOA (Modifier or additive use); USES (Uses)
 (poly(vinylpyrrolidone)-based resin contg. water-sol. fluorine **surfactant** and fluorine compd. as antireflection film in photoresist)

RN 376-73-8 HCAPLUS
 CN Pentanedioic acid, hexafluoro- (9CI) (CA INDEX NAME)

HO₂C-(CF₂)₃-CO₂H

L38 ANSWER 71 OF 77 HCAPLUS COPYRIGHT 2003 ACS
 AN 1996:367376 HCAPLUS
 DN 125:45140
 TI **Photoresist compositions** with improved coatability
 IN Nishi, Mineo; Nakano, Koji; Kusumoto, Tadashi
 PA Mitsubishi Chem Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM G03F007-004
 ICS B01F017-00; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08062834	A2	19960308	JP 1994-196882	19940822
PRAI	JP 1994-196882		19940822		

AB The **photoresist compns.** contain a **F-type surfactant** having a surface tension of 15-24.5 dyne/cm at crit. micelle concn. in the **photoresist** solvent. The **compns** . show good coatability and defoaming properties. Thus, m-cresol-p-cresol-2,5-xyleneol-HCHO-MeCHO novolak resin and 1,2-naphthoquinone diazido-5-sulfonate of m-cresol-MeCHO condensate were dissolved in a mixt. of Et lactate, propylene glycol monomethyl ether acetate, and Megafac **F-179** (**surfactant**; surface tension 23.1 dyne/cm) to give a **resist** soln.

ST **Photoresist compn fluorine surfactant**

IT **Surfactants**
 (fluorine-contg.; photoresist compn. contg. fluorine surfactant)

IT **Resists**
 (photo-, photoresist compn. contg. fluorine surfactant)

IT 150769-00-9, Megafac F 179 177765-35-4

RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
 (photoresist compn. contg. fluorine surfactant)

L38 ANSWER 72 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1995:693563 HCAPLUS

DN 123:213210

TI Positive-working thermosetting photosensitive resin **composition**

IN Tsutsumi, Yoshitaka; Tanaka, Tetsuo; Myamura, Hiroyuki; Hasegawa, Masazumi

PA Tosoh Corp, Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-022

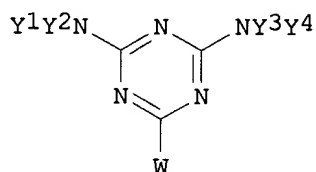
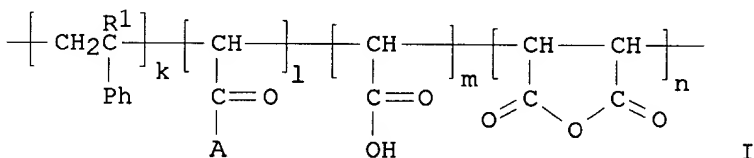
ICS G02B001-04; G02B005-20; G03F007-004; G03F007-023

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07104464	A2	19950421	JP 1993-244769	19930930
PRAI	JP 1993-244769		19930930		

GI



AB The **compn.** comprises an alkali-sol. resin, 1,2-naphthoquinonediazidesulfonic acid ester as a photosensitive agent, a thermosetting agent, which improves the heat- and chem.-**resistance** of the resin by heat-treatment after patterning, a solvent, and a **F-type surfactant** and/or a mixt. of a silicone-type surfactant and an acrylic oligomer. The alkali-sol. resin may be I (R¹ = H, Me; A = OA1, NA2A3; A1-3 = H, C1-6 alkyl, C6-12 aryl, C7-12 (aralkyl; k, m .gtoreq.1; l, n .gtoreq.0)) . The thermosetting agent may be II (W = NY5Y6, Ph; Y1-6 = H, CH2OZ; Z = H, C1-6 alkyl). The **compn.** shows good coatability, high sensitivity and resoln. and gives fine patterns with chem.- and heat-**resistance** after thermosetting.

ST thermosetting pos working **photoresist** surfactant

IT Siloxanes and Silicones, uses

RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered

- material use); USES (Uses)
 (KP 326; pos.-working thermosetting **photoresist compn**
 . contg. **surfactant**)
- IT Siloxanes and Silicones, uses
 RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
 (KP 341; pos.-working thermosetting **photoresist compn**
 . contg. **surfactant**)
- IT **Surfactants**
 (pos.-working thermosetting **photoresist compn.**
 contg. **surfactant**)
- IT Aminoplasts
 RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
 (pos.-working thermosetting **photoresist compn.**
 contg. **surfactant**)
- IT **Resists**
 (photo-, pos.-working thermosetting **photoresist compn**
 . contg. **surfactant**)
- IT 11114-17-3, Fluorad FC 430 12707-52-7, Fluorad FC 431 134191-63-2, Disparlon L 1983 168041-36-9, Diaaid AD 9001 168041-79-0, Disparlon L 1980
 RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
 (pos.-working thermosetting **photoresist compn.**
 contg. **surfactant**)
- IT 24979-71-3, Maruka Lyncur CMM 62712-10-1, Maleic anhydride-styrene copolymer benzyl ester
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pos.-working thermosetting **photoresist compn.**
 contg. **surfactant**)
- IT 9003-08-1, Formaldehyde-melamine copolymer
 RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
 (thermosetting agent Mycoat 506 and Cymel 303; pos.-working thermosetting **photoresist compn.** contg. **surfactant**)
- IT 150604-81-2, Epolead GT 400
 RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
 (thermosetting agent; pos.-working thermosetting **photoresist compn.** contg. **surfactant**)

L38 ANSWER 73 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1995:693137 HCAPLUS

DN 123:97942

TI Radiation sensitive **resist composition.**

IN Inoue, Masaaki; Taira, Kazuo; Yumoto, Yoshiji; Miura, Takao

PA Japan Synthetic Rubber Co., Ltd., Japan

SO Eur. Pat. Appl., 27 pp.

CODEN: EPXXDW

DT Patent

LA English

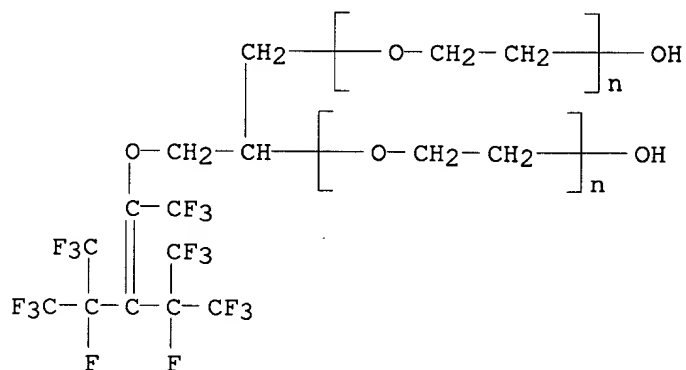
IC ICM G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

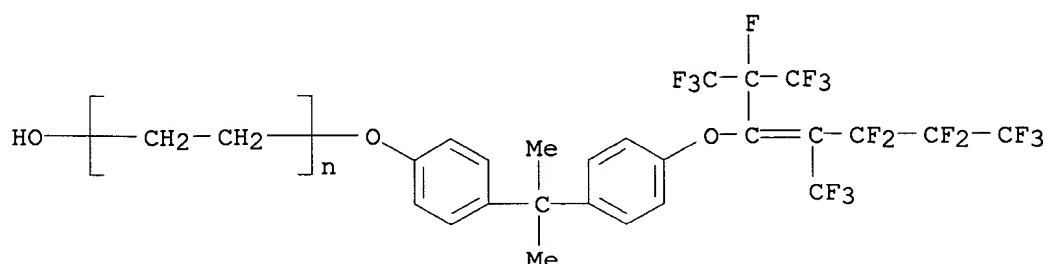
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI EP 633499 A1 19950111 EP 1994-304991 19940706
 R: DE, FR, GB, IT, NL
 JP 07028230 A2 19950131 JP 1993-191838 19930707
 PRAI JP 1993-191838 19930707
 AB A radiation-sensitive **resist compn.** comprises a surface active agent having a perfluoralkenyl group having .gtoreq.6 C atoms in the mol. When the **resist compn.** is filtered through a filter, the surface active agent is not adsorbed by the filter, so that striation is not caused and a coating film having a uniform thickness is always stably obtained from the above **compn.** The **resist compn.** is also excellent in developability.
 ST **photoresist compn surfactant**
 IT **perfluoro compd**
 IT **Surfactants**
 (perfluoro compd. photoresist compn.)
 IT **Resists**
 (photo-, perfluoro compd. as surfactant)
 IT 165178-74-5 165178-75-6 165178-76-7
 165446-02-6
 RL: MOA (Modifier or additive use); USES (Uses)
 (surfactant for photoresist compn.)
 IT 165178-74-5 165178-75-6 165178-76-7
 165446-02-6
 RL: MOA (Modifier or additive use); USES (Uses)
 (surfactant for photoresist compn.)
 RN 165178-74-5 HCAPLUS
 CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[1-[[[3,4,4,4-tetrafluoro-2-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,3-bis(trifluoromethyl)-1-butenyl]oxy)methyl]-1,2-ethanediyl]bis[.omega.-hydroxy- (9CI) (CA INDEX NAME)

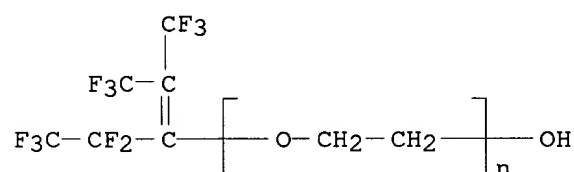


RN 165178-75-6 HCAPLUS
 CN Poly(oxy-1,2-ethanediyl), .alpha.-[4-[1-[4-[[[3,3,4,4,5,5,5-heptafluoro-1-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-2-(trifluoromethyl)-1-pentenyl]oxy]phenyl]-1-methylethyl]phenoxy]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 165178-76-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-[3,3,3-trifluoro-1-(pentafluoroethyl)-2-(trifluoromethyl)-1-propenyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 165446-02-6 HCAPLUS

CN Poly[oxy(hydroxy-1,3-propanediyl)], .alpha.-[4-[[4,5,5,5-tetrafluoro-3-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]-1,1,2,4,4-pentakis(trifluoromethyl)-2-pentenyl]oxy]benzoyl]-.omega.-hydroxy- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L38 ANSWER 74 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1994:641848 HCAPLUS

DN 121:241848

TI Liquid **resist compositions** with improved coatability

IN Kanetani, Daisuke; Kodera, Kohei; Iketani, Shinichi

PA Matsushita Electric Works Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03F007-004

ICS G03F007-022; H05K003-06

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06186735	A2	19940708	JP 1992-342907	19921222
PRAI	JP 1992-342907		19921222		

AB The title **resist comps.** contain a **F-type****surfactant.** A **resist** comprising PR-51767

(cresol-novolak resin), NT-200 (o-naphthoquinonediazidosulfonic acid ester of trihydroxybenzophenone), and FC-431 (fluorinated alkyl ester) showed good coating characteristics for through hole.

ST liq **resist compn** **fluorine** **surfactant**

IT **Resists****Surfactants**(liq. resist compn. fluorine-type
surfactant)

IT 12707-52-7, FC 431 68958-61-2, FC 171 79303-88-1, FC 170C
 RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered
 material use); USES (Uses)
 (liq. resist compn. fluorine-type
 surfactant)

L38 ANSWER 75 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1988:85329 HCAPLUS

DN 108:85329

TI High-contrast low metal ion two-step photoresist developing process and
composition

IN Lewis, James Marvin; Blakeney, Andrew Joseph

PA Petrarch Systems, Inc., USA

SO Eur. Pat. Appl., 23 pp.

CODEN: EPXXDW

DT Patent

LA English

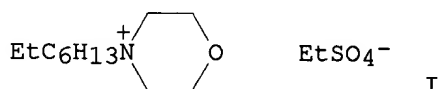
IC ICM G03F007-26

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 231028	A2	19870805	EP 1987-101211	19870129
	EP 231028	A3	19871202		
	EP 231028	B1	19910828		
	R: DE, FR, GB, IT				
	US 4710449	A	19871201	US 1986-823892	19860129
	CA 1306138	A1	19920811	CA 1987-527683	19870120
	JP 62247357	A2	19871028	JP 1987-19599	19870129
PRAI	US 1986-823892		19860129		

GI



I

AB A substrate coated with pos. photoresist is exposed, then immersed in a predip bath, rinsed, and then, immersed in a developer bath, rinsed, and dried. This process provides high contrast which does not decrease over the life of the developer system. The system consists of: (1) a predip soln. contg. an aq. nonmetal ion org. base and a cationic **surfactant** adjusted to a concn. that does not give development; and (2) a developer soln. contg. an aq. soln. of a nonmetal ion org. base and a fluorochem. **surfactant** adjusted to a concn. that provides development. The high contrast is achieved by the cationic **surfactant** coating and resist and inhibiting the attack on the unexposed resist by the developer while permitting the developer to dissolve away the exposed resist. Thus, a photoresist was contacted with an aq. soln. of NMe4OH contg. I, rinsed, and developed in an aq. soln. of NMe4OH contg. CF3(CF2)6CH2CH2O(CH2CH2O)4H. The resist had a sensitivity

of 35 mJ/cm², a contrast (.gamma.) of 5.2, a film loss of 0%, and a wall angle of 90.degree..

ST photoresist developer **surfactant** cationic; fluoro compd resist developer **surfactant**

IT **Surfactants**

(for photoresist two-step development process)

IT **Resists**

(photo-, development of, two-step, cationic **surfactant** and fluoro compd. **surfactant** for)

IT 41572-20-7 **81843-26-7** 96743-36-1 96743-37-2 96743-38-3

112770-82-8 112770-83-9 **112783-27-4** 112783-28-5

112783-29-6 112783-38-7

RL: USES (Uses)

(**surfactants**, for two-step **photoresist** development process)

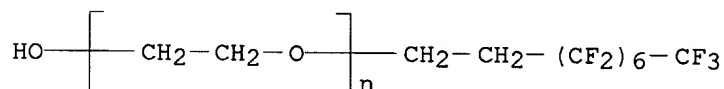
IT **81843-26-7 112783-27-4**

RL: USES (Uses)

(**surfactants**, for two-step **photoresist** development process)

RN 81843-26-7 HCAPLUS

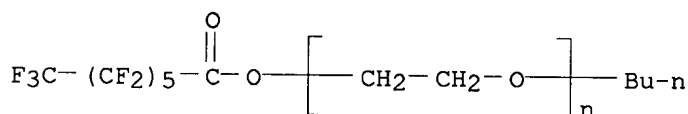
CN Poly(oxy-1,2-ethanediyl), .alpha.-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-pentadecafluorononyl)-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 112783-27-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-butyl-.omega.-

[(2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-1-oxoheptyl)oxy]- (9CI) (CA INDEX NAME)



L38 ANSWER 76 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1985:229491 HCAPLUS

DN 102:229491

TI High contrast photoresist developer

IN Lewis, James Marvin; Owens, Austin; Blakeney, Andrew Joseph

PA Allied Corp., USA

SO Eur. Pat. Appl., 23 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G03F007-26

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI EP 129106 A1 19841227 EP 1984-106059 19840528
EP 129106 B1 19880127
R: DE, FR, GB, IT
CA 1251350 A1 19890321 CA 1984-455255 19840528
JP 60012547 A2 19850122 JP 1984-125000 19840618
JP 04062576 B4 19921006
US 4661436 A 19870428 US 1985-767318 19850819
PRAI US 1983-505571 19830617

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L38 ANSWER 76 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1985:229491 HCAPLUS

DN 102:229491

TI High contrast photoresist developer

IN Lewis, James Marvin; Owens, Austin; Blakeney, Andrew Joseph

PA Allied Corp., USA

SO Eur. Pat. Appl., 23 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G03F007-26

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and
Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 129106	A1	19841227	EP 1984-106059	19840528
	EP 129106	B1	19880127		
	R: DE, FR, GB, IT				
	CA 1251350	A1	19890321	CA 1984-455255	19840528
	JP 60012547	A2	19850122	JP 1984-125000	19840618
	JP 04062576	B4	19921006		
	US 4661436	A	19870428	US 1985-767318	19850819
PRAI	US 1983-505571		19830617		

AB A developer for a pos. diazo photoresist contains an alkali metal hydroxide, H₂O and .gtoreq.0.001% of a nonionic fluorocarbon

surfactants. Addn. of the **surfactant** results in

increased contrast of the developed image. Thus, a Si wafer (dehydrated at 200.degree. and treated with hexamethyldisilazone) was spun coated with a photoresist contg. a novolak resist and diazonaphthoquinonesulfonic acid ester, baked at 100.degree. for 3 min. UV imagewise exposed, immersed in a developer contg. 0.271N aq. KOH, and a mixt. of **surfactants** having formula F(CF₂)_n(CH₂CH₂O)_mCH₂CH₂OH (n = 3-6; m > 5-26) 0.016% at 22.degree. for 60 s, and dried. The sensitivity of the resist was 8 mJ/cm² and contrast 12.5 vs. 25 mJ/cm² and 2.2 using **surfactants** -free control developer.

ST fluorocarbon **surfactant** diazo **photoresist** developer;
pos diazo **photoresist** **surfactant** developer; nonionic

fluorosurfactant photoresist developer

IT **Resists**

(developer for, consisting of alkali metal hydroxide and nonionic fluorocarbon **surfactant**)

IT Phenolic resins, uses and miscellaneous
 RL: USES (Uses)
 (photoresist **compn.** contg. diazo compd. and, alk. developer for, contg. nonionic fluorocarbon **surfactant**, for increased image contrast)

IT **Surfactants**
 (nonionic, fluorocarbon, photoresist alk. developer **compn.** contg., for improved image contrast)

IT **Resists**
 (photo-, pos.-working, diazo, alk. developer for, contg. nonionic fluorocarbon **surfactant**, for improved image contrast)

IT 96743-36-1 96743-37-2 96743-38-3 **96743-39-4**
 RL: USES (Uses)
 (developer **compn.** contg. alkali metal hydroxide and, for pos. diazo **photoresists**, for increased image contrast)

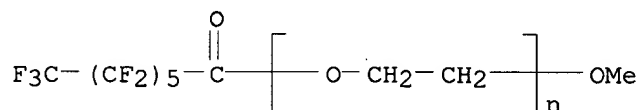
IT 1310-58-3, uses and miscellaneous 1310-73-2, uses and miscellaneous
 RL: USES (Uses)
 (developer **compn.** contg. nonionic fluorohydrocarbon **surfactant** and, for pos. diazo **photoresists**, for improved image contrast)

IT 20680-48-2D, esters
 RL: USES (Uses)
 (photoresist contg., developer **compn.** for, contg. alkali metal hydroxide and nonionic fluorocarbon **surfactant**, for improved image contrast)

IT **96743-39-4**
 RL: USES (Uses)
 (developer **compn.** contg. alkali metal hydroxide and, for pos. diazo **photoresists**, for increased image contrast)

RN 96743-39-4 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-(2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro-1-oxoheptyl)-.omega.-methoxy- (9CI) (CA INDEX NAME)



L38 ANSWER 77 OF 77 HCAPLUS COPYRIGHT 2003 ACS

AN 1985:36768 HCAPLUS

DN 102:36768

TI Resist developer additive for enhanced pattern definition

PA Nippon Telegraph and Telephone Public Corp., Japan; Daikin Kogyo Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

IC G03C005-24; G03F007-00

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 59142547 A2 19840815 JP 1983-15913 19830202
JP 03032783 B4 19910514
PRAI JP 1983-15913 19830202

AB A resist developer additive comprises an anionic **surfactant** which is F-contg. or other acid, which may or may not be in salt form with ammonium or amininium (primary, secondary or tertiary) in which the substituents are C1-6 alkyls. Claim includes preferable choice of the acids in the claim. The addn. of the claimed agents to the conventional developers markedly increases the definition of the obtained pattern and prevents scum formation. Thus, a resist having a layer of poly(2,2,3,4,4-hexafluorobutyl methacrylate) on Si wafer was patternwise exposed to electron beam and developed with methyl isobutyl ketone/iso-PrOH 1:150 mixt. contg. dodecylbenzenesulfonic acid 0.2%, by immersion for 120 s, and rinsed in iso-PrOH. Microphotog. examn. of the developed resist before and after dry etching showed absence of scum and excellent pattern definition.

ST resist developer additive anionic **surfactant**; developer resist prevention scum; sulfonic acid resist developer

IT **Surfactants**

(anionic, resist developer **compn.** contg., for enhanced pattern definition)

IT **Resists**

(electron-beam, developer **compn.** for, contg. anionic **surfactant** for enhanced pattern definition)

IT 76-21-1 375-95-1 376-34-1 756-09-2
1331-61-9 1546-95-8 27176-87-0 35465-66-8
RL: USES (Uses)

(**resist** developer contg.)

IT 9011-14-7 64376-86-9

RL: USES (Uses)

(**resist** layer from, developer **compn.** for)

IT 76-21-1 375-95-1 756-09-2 1546-95-8

RL: USES (Uses)

(**resist** developer contg.)

RN 76-21-1 HCAPLUS

CN Nonanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluoro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C- (CF₂)₇-CHF₂

RN 375-95-1 HCAPLUS

CN Nonanoic acid, heptadecafluoro- (8CI, 9CI) (CA INDEX NAME)

HO₂C- (CF₂)₇-CF₃

RN 756-09-2 HCAPLUS

CN Propanoic acid, 2,2,3,3-tetrafluoro- (9CI) (CA INDEX NAME)

HO₂C-CF₂-CHF₂

RN 1546-95-8 HCAPLUS

CN Heptanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro- (6CI, 7CI, 8CI, 9CI)

(CA INDEX NAME)

HO₂C-(CF₂)₅-CHF₂

IT 64376-86-9

RL: USES (Uses)

(resist layer from, developer compn. for)

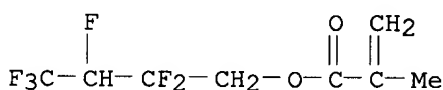
RN 64376-86-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,3,4,4,4-hexafluorobutyl ester,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 36405-47-7

CMF C8 H8 F6 O2



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L2 3 SEA FILE=REGISTRY ABB=ON (251907-30-9/BI OR 275364-62-0/BI OR
 275364-64-2/BI)
 L4 170015 SEA FILE=REGISTRY ABB=ON (C(L)F(L)H(L)O)/ELS(L)4/ELC.SUB
 L5 125616 SEA FILE=HCAPLUS ABB=ON L4
 L6 2790 SEA FILE=HCAPLUS ABB=ON L5(L)?RESIST?
 L7 676 SEA FILE=HCAPLUS ABB=ON L6 AND PHOTOG?/SC,SX
 L8 881 SEA FILE=HCAPLUS ABB=ON L5(L)?SURFACTANT?
 L9 15 SEA FILE=HCAPLUS ABB=ON L7 AND L8
 L10 9 SEA FILE=HCAPLUS ABB=ON L2
 L14 41 SEA FILE=HCAPLUS ABB=ON L7 AND SURFACTANT?
 L15 50 SEA FILE=HCAPLUS ABB=ON L9 OR L10 OR L14
 L16 6862 SEA FILE=HCAPLUS ABB=ON (FLUOR? OR PERFLUOR? OR F) (2A) SURFACTA
 NT?
 L17 1097 SEA FILE=HCAPLUS ABB=ON L16 AND ?RESIST?
 L18 366 SEA FILE=HCAPLUS ABB=ON L17 AND PHOTOG?/SC,SX
 L21 4 SEA FILE=HCAPLUS ABB=ON L18 AND CONTACT? (2A) ?ANGLE?
 L22 250 SEA FILE=HCAPLUS ABB=ON L18 AND SURFACTANTS/IT
 L23 126 SEA FILE=HCAPLUS ABB=ON L22 AND (COMPOSITION? OR COMPNS)
 L24 66 SEA FILE=HCAPLUS ABB=ON L23 AND MOA/RL
 L25 11 SEA FILE=HCAPLUS ABB=ON L24 AND RESISTS/IT
 L26 39 SEA FILE=HCAPLUS ABB=ON L22 AND PHOTO? (3A) ?GENERAT?
 L27 93 SEA FILE=HCAPLUS ABB=ON L15 OR L21 OR L25 OR L26
 L28 83 SEA FILE=HCAPLUS ABB=ON L27 AND PHOTOG?/SC
 L29 76 SEA FILE=HCAPLUS ABB=ON L28 AND SURFACTANT?/IT
 L30 732 SEA FILE=HCAPLUS ABB=ON FLUOROSURFACTANT?
 L31 104 SEA FILE=HCAPLUS ABB=ON L30(L)?RESIST?
 L32 54 SEA FILE=HCAPLUS ABB=ON L31 AND PHOTOG?/SC
 L34 29 SEA FILE=HCAPLUS ABB=ON L32 AND (COMPOSITION? OR COMPNS)
 L35 88 SEA FILE=HCAPLUS ABB=ON L29 OR L34
 L36 79 SEA FILE=HCAPLUS ABB=ON L35 AND (RESISTS/IT OR PHOTORESISTS/IT
)

L37 70 SEA FILE=HCAPLUS ABB=ON L36 AND (COMPOSITION? OR COMPNS)
 L38 77 SEA FILE=HCAPLUS ABB=ON L37 OR L10
 L39 105 SEA FILE=HCAPLUS ABB=ON L27 OR L34
 L40 102 SEA FILE=HCAPLUS ABB=ON L39 AND P/DT
 L44 34 SEA FILE=HCAPLUS ABB=ON L40 NOT 1999-2003/AY
 L45 36 SEA FILE=HCAPLUS ABB=ON L40 NOT 1999-2003/PRY
 L46 36 SEA FILE=HCAPLUS ABB=ON L44 OR L45
 L47 16 SEA FILE=HCAPLUS ABB=ON (L38 OR L46) NOT L38
 L48 14 SEA FILE=HCAPLUS ABB=ON L47 AND SURFACTANT?/IT

=> d l48 1-14 bib abs hitind fhitstr

L48 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:681462 HCAPLUS

DN 131:300680

TI Hard coat for optical recording media and optical recording media made from the same

IN Yoshida, Reiko; Obayashi, Gentaro

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11293159	A2	19991026	JP 1998-97315	19980409
PRAI	JP 1998-97315		19980409		
AB	The coat, having good resistant to sweat and fingerprint mark, comprises a hard coat contg. 0.01-3 % a noncrosslinkable fluoro surfactant and 0.01-5% a crosslinkable fluoro surfactant . Thus, a coat, having oleic acid contact angle 77.3.degree. and for polycarbonate disk coating, was prepd. from a mixt. of a UV-curable urethane acrylate 50, a polyfunctional acrylate 48, Irgacurel 84 2, Fluorad FC 430 0.6 and Viscoat 8F 2 parts.				
IC	ICM C09D007-12				
	ICS C09D004-02; C09D133-00; G11B007-24; C09D201-00				
CC	42-13 (Coatings, Inks, and Related Products)				
	Section cross-reference(s): 74				
IT	Optical disks				
	Surfactants				
	(hard coat for optical recording media and optical recording media made from the same)				

L48 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:209937 HCAPLUS

DN 130:244525

TI Application solution for antireflective film formation

IN Tanabe, Masato; Wakitani, Kazumasa; Kobayashi, Seiichi; Nakayama, Toshimasa

PA Tokyo Ohka Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 11084640 A2 19990326 JP 1997-256227 19970905
 US 6132928 A 20001017 US 1998-148997 19980908
 PRAI JP 1997-256227 A 19970905
 AB The soln. is useful for forming a homogeneous reflective film with no surface defects on a **resist** film. The antireflective film has **contact angle** with the **resist** film .ltoreq.15.degree.. The soln. may contain a water-sol. film formable component, a **F-based surfactant**, and N-alkyl-pyrrolidone. The film is useful for pattern formation by lithog.
 IC ICM G03F007-004
 ICS C09D005-00; G03F007-11; H01L021-027
 CC 74-12 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
 IT **Surfactants**
 (fluorosurfactants; application soln. for antireflective film formation)

L48 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2003 ACS
 AN 1997:802349 HCAPLUS
 DN 128:134437
 TI Image-forming photosensitive material for color proofing
 IN Shimizu, Kazuyuki; Iwashita, Hironobu; Tobisawa, Seiichi
 PA Konica Co., Japan
 SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF

DT **Patent**
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09325474	A2	19971216	JP 1996-145897	19960607
PRAI	JP 1996-145897		19960607		
AB	The material comprises a colored photosensitive layer contg. a vinyl acetate-based polymer binder and a F-contg. surfactant on a support. The material has a multilayer structure of a heat-softening releasing layer or a heat-softening layer, a releasing layer, and a colored photosensitive layer contg. a F-contg. surfactant successively layered on a support. The material shows blocking prevention and no irregularity on the surface.				
IC	ICM G03F007-004 ICS C09D004-00; C09D004-02; G03F003-10; G03F007-11				
CC	74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 46				
ST	image forming material color proofing; photosensitive layer vinyl acetate polymer; fluorine contg surfactant photosensitive layer; blocking resistance photosensitive color proofing material				
IT	Fatty acids, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (branched fatty acids, vinyl esters, polymers with vinyl acetate; photosensitive image-forming material contg. vinyl acetate polymers and fluorine-contg. surfactants showing blocking resistance)				
IT	Phenolic resins, processes RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (cresol-based, photosensitive layer contg.; photosensitive				

image-forming material contg. vinyl acetate polymers and
fluorine-contg. **surfactants** showing blocking resistance)

IT Parting materials
(in photosensitive image-forming material contg. vinyl acetate polymers
and fluorine-contg. **surfactants** showing blocking resistance)

IT **Surfactants**
(photosensitive image-forming material contg. vinyl acetate polymers
and fluorine-contg. **surfactants** showing blocking resistance)

IT Lithographic plates
(photosensitive; photosensitive image-forming material contg. vinyl
acetate polymers and fluorine-contg. **surfactants** showing
blocking resistance)

IT 108-05-4DP, Acetic acid ethenyl ester, polymers with versatic acid vinyl
ester, preparation 3724-65-0DP, 2-Butenoic acid, polymers with vinyl
acetate and vinyl versatic acid ester
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(photosensitive image-forming material contg. vinyl acetate polymers
and fluorine-contg. **surfactants** showing blocking resistance)

IT 25053-88-7, Formaldehyde-p-cresol copolymer 36451-09-9
RL: PEP (Physical, engineering or chemical process); TEM (Technical or
engineered material use); PROC (Process); USES (Uses)
(photosensitive layer contg.; photosensitive image-forming material
contg. vinyl acetate polymers and fluorine-contg. **surfactants**
showing blocking resistance)

IT 29403-94-9 **29991-77-3** 30282-36-1 60194-48-1
64376-87-0 94422-67-0 201669-23-0 **201669-24-1**
201669-26-3 201669-28-5 **201669-29-6** **201669-30-9**
201669-31-0 201669-32-1 201669-33-2 **201669-34-3**
201669-35-4 201669-36-5 **201749-31-7** 201749-32-8
201749-33-9 **201798-08-5** **201798-10-9** 201798-12-1
201798-14-3 201798-16-5 **201798-17-6** **201798-18-7**
201798-19-8 **201872-96-0** 201872-97-1
RL: MOA (Modifier or additive use); USES (Uses)
(**surfactants**; photosensitive image-forming material contg.
vinyl acetate polymers and fluorine-contg. **surfactants**
showing blocking **resistance**)

IT 24937-78-8, Evaflex P 1407
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastic releasing layer; photosensitive image-forming material
contg. vinyl acetate polymers and fluorine-contg. **surfactants**
showing blocking resistance)

IT **29991-77-3**
RL: MOA (Modifier or additive use); USES (Uses)
(**surfactants**; photosensitive image-forming material contg.
vinyl acetate polymers and fluorine-contg. **surfactants**
showing blocking **resistance**)

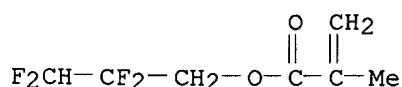
RN 29991-77-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2,2,3,3-tetrafluoropropyl ester, homopolymer
(9CI) (CA INDEX NAME)

CM 1

CRN 45102-52-1

CMF C7 H8 F4 O2



L48 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:757210 HCAPLUS

DN 128:36027

TI Anti-reflective, abrasion resistant, anti-fogging coated articles and methods

IN Ko, John H.; Fung, Simon S.

PA Minnesota Mining and Manufacturing Company, USA

SO PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9743668	A1	19971120	WO 1997-US6420	19970415
W: AU, CA, JP, MX				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5846650	A	19981208	US 1996-644136	19960510
AU 9728037	A1	19971205	AU 1997-28037	19970415
EP 898721	A1	19990303	EP 1997-922336	19970415
EP 898721	B1	20021127		
R: DE, DK, FR, GB, SE				
JP 2000511950	T2	20000912	JP 1997-540874	19970415
PRAI US 1996-644136	A	19960510		
WO 1997-US6420	W	19970415		
AB Articles comprising a substrate having a surface and a coating on the surface of the substrate are described in which the coating comprises at least a fluoropolymer and a fluorochem. surfactant selected such that the article is antireflective, abrasion resistant, and antifogging. Articles are also described which are provided with coatings from fluoropolymers and cross-linked reaction products of .gtoreq.1 fluorinated ene-functional reactants selected so that the article is antireflective and abrasion resistant. Methods of making the articles are also described.				
IC ICM G02B001-11				
CC 42-7 (Coatings, Inks, and Related Products)				
Section cross-reference(s): 73, 74				
IT Surfactants				
(fluorosurfactants; antireflective abrasion-resistant antifogging coated articles and their prodn.)				
IT 40677-94-9D , L 11619, polymers with acrylates				
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)				
(L 11619; antireflective abrasion-resistant antifogging coated articles and their prodn.)				
IT 868-77-9D, polymers with acrylates 918-36-5D , polymers with acrylates 1652-63-7, FLUORAD FC-135 2991-51-7, FLUORAD FC-129 9011-14-7, Polymethyl methacrylate 29117-08-6, FLUORAD FC-170C 31212-88-1 51909-90-1, ACRYLOID A-11 58229-85-9, ACRYLOID B-44 67906-42-7, FLUORAD FC-120 68958-61-2, FLUORAD FC-171 199669-37-9 199669-38-0D, polymers with acrylates 199744-82-6 199747-84-7				

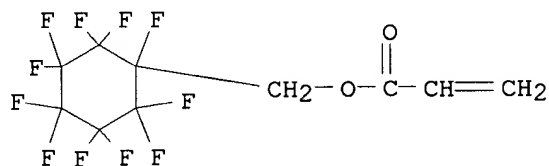
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(antireflective abrasion-**resistant** antifogging coated articles and their prodn.)

IT **40677-94-9D**, L 11619, polymers with acrylates

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)
(L 11619; antireflective abrasion-**resistant** antifogging coated articles and their prodn.)

RN **40677-94-9** HCAPLUS

CN 2-Propenoic acid, (undecafluorocyclohexyl)methyl ester (9CI) (CA INDEX NAME)



L48 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:320991 HCAPLUS

DN 126:299691

TI Chemically-amplified positive-working **resist** material containing organic solvents having group unstable to acid

IN Watanabe, Satoshi; Oikawa, Katsuyuki; Takeda, Yoshifumi; Nagura, Shigehiro

PA Shinetsu Chem Ind Co, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09068803	A2	19970311	JP 1995-246873	19950831
	JP 3060913	B2	20000710		
PRAI	JP 1995-246873		19950831		

AB The **resist** material contains an alkali-sol. resin, a **photoacid generator**, and an org. solvent contg. an org. solvent with b.p. 90-200.degree. having .gtoreq.1 group which in unstable to acid. The solvent is preferably selected from AcOCMe₃, EtCO₂CMe₃, and PrCO₂CMe₃. The material may contain a dissoln. inhibitor having a group which in unstable to acid and a fluorosurfactant. The material is sensitive to high-energy beam, esp. to KrF excimer laser, shows good resoln., storage stability, film-forming property, and provides a **resist** profile with rectangular shape.

ICM G03F007-039

ICS G03F007-004; G03F007-029; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST chem amplified pos working **resist**; butyl alkanoate solvent pos **resist**

IT **Surfactants**

(**fluorosurfactants**; chem.-amplified pos.-working **resist** material contg. org. solvents having group unstable to

acid to improve resoln.)

IT **Resists**
(pos.-working; chem.-amplified pos.-working **resist** material
contg. org. solvents having group unstable to acid to improve resoln.)

IT 540-88-5, tert-Butyl acetate 2308-38-5, tert-Butyl butyrate
11114-17-3, FC 430 20487-40-5, tert-Butyl propionate 129674-22-2
RL: TEM (Technical or engineered material use); USES (Uses)
(chem.-amplified pos.-working **resist** material contg. org.
solvents having group unstable to acid to improve resoln.)

IT 117458-06-7
RL: TEM (Technical or engineered material use); USES (Uses)
(dissoln. inhibitor; chem.-amplified pos.-working **resist**
material contg. org. solvents having group unstable to acid to improve
resoln.)

IT 66003-78-9, Triphenylsulfonium triflate
RL: TEM (Technical or engineered material use); USES (Uses)
(**photoacid generator**; chem.-amplified pos.-working
resist material contg. org. solvents having group unstable to
acid to improve resoln.)

L48 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1997:197822 HCAPLUS

DN 126:192982

TI Water-soluble patterning material for manufacture of protective film on
photoresist

IN Hatakeyama, Jun; Watanabe, Satoshi; Ishihara, Toshinobu; Umemura, Mitsuo;
Okazaki, Satoshi

PA Shinetsu Chem Ind Co, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09006008	A2	19970110	JP 1995-172779	19950615
PRAI	JP 1995-172779		19950615		
OS	MARPAT 126:192982				
AB	The material contains H ₂ O and perfluoroalkyl ether carboxylic acid-type surfactants F[C(CF ₃)FCF ₂ O]pC(CF ₃)FCO ₂ H (p = 1-10). A protective film was obtained without defects.				
IC	ICM G03F007-11				
	ICS H01L021-027				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 46				
ST	surfactant water sol photoresist overcoating; perfluoroalkyl ether carboxylic acid surfactant patterning				
IT	Photoresists Surfactants (water-sol. patterning material contg. perfluoroalkyl ether-type surfactant for protective film on photoresist)				
IT	9003-01-4, Poly(acrylic acid)		9057-02-7, Pullulan	25086-89-9, Luviskol	
	VA 64 156391-75-2				
	RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) (water-sol. patterning material contg. perfluoroalkyl ether-type surfactant for protective film on photoresist)				

IT 13252-14-7 65294-16-8

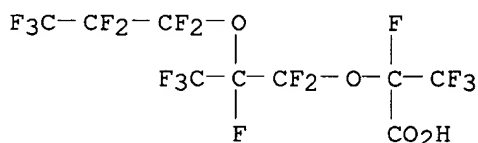
RL: TEM (Technical or engineered material use); USES (Uses)
 (water-sol. patterning material contg. perfluoroalkyl ether-type
surfactant for protective film on **photoresist**)

IT 13252-14-7

RL: TEM (Technical or engineered material use); USES (Uses)
 (water-sol. patterning material contg. perfluoroalkyl ether-type
surfactant for protective film on **photoresist**)

RN 13252-14-7 HCAPLUS

CN Propanoic acid, 2,3,3,3-tetrafluoro-2-[1,1,2,3,3,3-hexafluoro-2-
 (heptafluoropropoxy)propoxy]- (9CI) (CA INDEX NAME)



L48 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1996:476737 HCAPLUS

DN 125:117652

TI Ink composition with good water resistance and ink jet recording method
 using the same

IN Kanaya, Miharuru; Owatari, Akio; Takatsuna, Junko; Yatake, Masahiro;
 Hayashi, Hiroko; Ono, Takashi; Sawatari, Yoshihiro; Yagyu, Tatsuya

PA Seiko Epson Corporation, Japan

SO Eur. Pat. Appl., 20 pp.

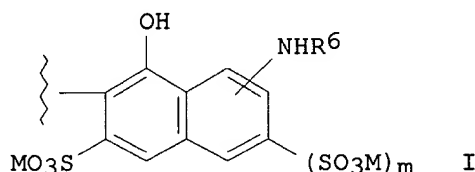
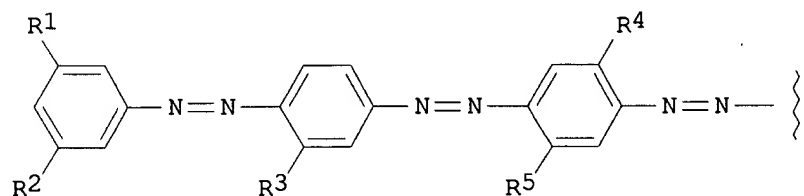
CODEN: EPXXDW

DT **Patent**

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 716133	A2	19960612	EP 1995-119046	19951204
	EP 716133	A3	19970618		
	EP 716133	B1	20000712		
	R: CH, DE, FR, GB, IT, LI, NL, SE				
	US 5616174	A	19970401	US 1995-566834	19951204
	JP 09003379	A2	19970107	JP 1995-316970	19951205
	JP 3341968	B2	20021105		
PRAI	JP 1994-300695	A	19941205		
	JP 1995-97238	A	19950421		
OS	MARPAT 125:117652				
GI					



AB An ink compn. is provided which enables high-quality recording on plain paper and can record an image having excellent water resistance. The ink compn. comprises dye I: M = H, alkali metal, (un)substituted ammonium, morpholinium, or piperidinium, R1 = H, NH2, or CO2M, R2 = CO2M or P(O)n(OM)2 (n = 0-1); R3 = H, CO2M, or SO3M; R4 and R5 independently represent H, C1-6 alkyl group, or C1-6 alkoxy group; R6 represents H, a Ph group which may be substituted, an alkylcarbonyl group, or an alkyl group which may be substituted with a hydroxyl or alkoxy group; and m = 0-1. The ink compns. contain I, and optionally a nonionic acetylene glycol **surfactant**, a glycol ether, a polyhydric alc., or a N-contg. cyclic compd. Thus, I (R1 = H, R2 = P(O)(ONH4)2, R3 = CO2NH4, R4, R5 = OMe, R6 = H, m = 0, M = NH3) was prepd. and combined with 2-pyrrolidone, and ethanol to give an ink. The ink exhibited good water resistance and image quality.

IC ICM C09D011-00

CC 42-12 (Coatings, Inks, and Related Products)

Section cross-reference(s): 41

IT 126-86-3, Surfynol TG 9014-85-1, Surfynol 465

RL: TEM (Technical or engineered material use); USES (Uses)

(**surfactant**; water-resistant ink compns. for ink jet printing contg. trisazo dye and)

IT 56-81-5, 1,2,3-Propanetriol, uses 64-17-5, Ethanol, uses 71-23-8, 1-Propanol, uses 80-73-9, 1,3-Dimethyl-2-imidazolidinone 102-71-6, Triethanolamine, uses 111-29-5, 1,5-Pentanediol 111-46-6, uses 111-48-8, Thiodiglycol 112-34-5, Diethylene glycol monobutyl ether 143-22-6, Triethylene glycol monobutyl ether 616-45-5, 2-Pyrrolidone 29387-86-8, Propylene glycol monobutyl ether 70688-67-4, Ftergent 251

RL: TEM (Technical or engineered material use); USES (Uses)
(water-resistant ink compns. for ink jet printing contg. trisazo dye and)

IT 70688-67-4, Ftergent 251

RL: TEM (Technical or engineered material use); USES (Uses)
(water-resistant ink compns. for ink jet printing contg. trisazo dye and)

RN 70688-67-4 HCAPLUS

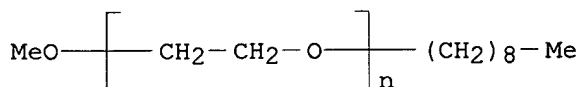
CN Poly(oxy-1,2-ethanediyl), .alpha.-(heptadecafluorononyl)-.omega.-methoxy-(9CI) (CA INDEX NAME)

CM 1

CRN 70688-66-3

CMF (C2 H4 O)_n C10 H5 F17 O

CCI IDS, PMS



17 (D1-F)

L48 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1993:103654 HCAPLUS

DN 118:103654

TI Preparation of polymer fine particles for dry toners

IN Muto, Kenkichi

PA Ricoh Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04283201	A2	19921008	JP 1991-70433	19910312
PRAI	JP 1991-70433		19910312		

AB Title particles with good humidity resistance and uniformity, are prep'd. by polymn. of hydrophilic monomers in presence of water-sol. fluoro-based **surfactants** (1st step) and polymn. of monomers contg. hydrophobic polymerizable monomers as main components (2nd step). Thus, H₂O 240, 0.1% Megafac F 141 (perfluoroalkyl ethylene oxide adduct) 7.2, Bu acrylate 2.5, and K persulfate 0.135 part were heated at 80.degree. for 1 h under N (1st step; av. particle size 0.081 .mu.m), which were mixed with 50 parts n-Bu methacrylate and 60 parts trifluoroethyl methacrylate at 80.degree. for 4 h with mixing aq. soln. of 0.5 part K persulfate for 7 h, and further treated at 80.degree. for 10 h to give fine particles with good uniformity (2nd step; conversion 98.0%, av. particle size 0.29 .mu.m).

IC ICM C08F002-24

ICS G03G009-087

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

IT **Surfactants**

(water-sol., fluoro-based, for prepn. of polymer fine particles)

IT 146278-83-3P **146278-84-4P**

RL: PREP (Preparation)

(fine particles, prepn. of, with good humidity **resistance** and uniformity)

IT 2991-51-7, Megafac F 120 69458-58-8, Megafac F 141

RL: USES (Uses)

(surfactants, for prepn. of polymer fine particles)IT **146278-84-4P**

RL: PREP (Preparation)

(fine particles, prepn. of, with good humidity **resistance** and uniformity)

RN 146278-84-4 HCAPLUS

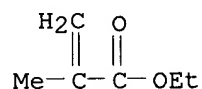
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate and trifluoroethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 38785-10-3

CMF C6 H7 F3 O2

CCI IDS

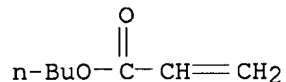


3 (D1-F)

CM 2

CRN 141-32-2

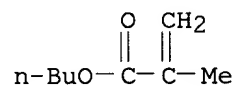
CMF C7 H12 O2



CM 3

CRN 97-88-1

CMF C8 H14 O2



L48 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:169081 HCAPLUS

DN 112:169081

TI Electrophotographic photoconductors containing polycarbonate

IN Shigeta, Kunio; Ichino, Tadashi; Yoshizawa, Hideo; Sakai, Eiichi; Takei, Yoshiaki

PA Konica Co., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01253751	A2	19891011	JP 1988-81730	19880401
PRAI	JP 1988-81730		19880401		
GI	For diagram(s), see printed CA Issue.				
AB	The title photoconductors with charge-carrier generating and transporting layers contain nonionic surfactants and polycarbonates having repeating units I and/or II [R1-2 = H, (cyclo)alkyl, aryl (.gtoreq.1 of R1-2 = bulky group); R3-10 = H, halo, (cyclo)alkyl; polymn. degree = 10-5000, preferably 50-100; A = carbocyclic or heterocyclic ring]. These photoconductors are wear- resistant , easily cleanable, and moisture- resistant , have good coatability and smooth surface, and provide good printability and image quality. Thus, an Al substrate was undercoated with a maleic anhydride- vinyl acetate-vinyl chloride copolymer, coated with a charge-generating layer contg. a dye III and Panlite L-1250 (bisphenol A polycarbonate), and with a charge-transporting layer compn. contg. 15 g Iupilon Z200 (invention polycarbonate), 11.25 g transporting agent IV, and 0.0 mL Fluorad FC431 (nonionic surfactant) 0.01 mL to obtain the photoconductor. Tests showed the described advantages of the photoconductor over ref. photoconductors using e.g. bisphenol A polycarbonate as binder or ionic surfactants.				
IC	ICM G03G005-05				
	ICS G03G005-05				
CC	74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
	Section cross-reference(s): 38				
IT	Electrophotographic plates				
	(polycarbonate binders and nonionic surfactants for)				
IT	Surfactants				
	(nonionic, electrophotog. photoconductors contg.)				
L48	ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2003 ACS				
AN	1988:446235 HCAPLUS				
DN	109:46235				
TI	Positive photoresists containing fluoroorganic compounds for improved surface characteristics				
IN	Dreher, Bernhard; Siebert, Werner; Baumbach, Wolfgang; Prescher, Dietrich; Kuhnert, Lothar				
PA	VEB Fotochemische Werke Berlin, Ger. Dem. Rep.				
SO	Ger. (East), 4 pp.				
	CODEN: GEXXA8				
DT	Patent				
LA	German				

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 247300	A1	19870701	DD 1986-288415	19860327
PRAI	DD 1986-288415		19860327		
AB	Pos.-working photoresists with decreased surface roughness are composed of .gtoreq.1 deriv. of a 1-oxo-2-diazoarenesulfonic acid, .gtoreq.1 nonwater-sol., but aq. alk. soln.-swellable or sol. binder, such as a novolak, further additives as solvents, dyes, and/or hardeners, and a fluoroorg. compd. of the formula RXAr (R = a fluoroaliph. group; X = CF2, CH2, or CO; and Ar = Ph or naphthyl). Thus, a soln. contg. a semialternating o-cresol-p-cresol-bis(p-cresol) novolak resin, 1,3-bis(1'-oxo-2'-diazonaphthensulfonyloxy-4')benzophenone,				

1,3-bis(1'-oxo-2'-diazonaphthenesulfonyloxy-5')benzophenone, 3,4,5-tris(1'-oxo-2'-diazonaphthenesulfonyloxy-5')benzoic acid iso-Bu ester, and diglyme was stirred, filtered, perfluorooctylbenzene added, and the resist coated on a SiO₂-coated support to produce a layer with a surface roughness of 4 nm.

IC ICM G03C001-72

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST fluoroalkylarene **surfactant** photoresist surface roughness;
fluoroalkanoylarene **surfactant** photoresist surface roughness;
surfactant photoresist surface roughness

IT **Surfactants**

(fluoroalkylarenes and fluoroalkanoylarenes, photoresists contg., for decreased surface roughness)

IT Phenolic resins, uses and miscellaneous

RL: USES (Uses)

(novolak, photoresists contg. fluoroorg. compd. **surfactants** and, for decreased surface roughness)

IT Resists

(photo-, contg. fluoroorg. compd. **surfactants** for decreased surface roughness)

IT 114750-79-7 115325-21-8 115325-22-9

RL: USES (Uses)

(photoresist contg. novolak resin and fluoroorg. compd. **surfactant** and, for decreased surface tension)

IT 114651-36-4

RL: USES (Uses)

(photoresists contg. oxodiazoarenesulfonic acid deriv. and fluoroorg. compd. **surfactant** and, for decreased surface roughness)

IT 71-43-2D, Benzene, perfluoroalkanoyl derivs. **6500-35-2**

87405-83-2 114713-10-9 114750-78-6 **114766-45-9**

RL: USES (Uses)

(**surfactants**, **photoresists** contg., for decreased surface roughness)

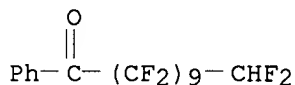
IT **6500-35-2**

RL: USES (Uses)

(**surfactants**, **photoresists** contg., for decreased surface roughness)

RN 6500-35-2 HCAPLUS

CN 1-Undecanone, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoro-1-phenyl- (9CI) (CA INDEX NAME)



L48 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1988:229665 HCAPLUS

DN 108:229665

TI Positive photoresists containing fluoroorganic compounds for improved surface characteristics

IN Prescher, Dietrich; Platonov, Vjaceslav E.; Dvornikova, Kira V.; Wanke, Andreas; Baumbach, Wolfgang

PA VEB Fotochemische Werke Berlin, Ger. Dem. Rep.

SO Ger. (East), 3 pp.

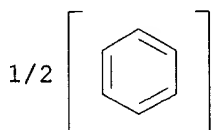
CODEN: GEXXA8

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 247301	A1	19870701	DD 1986-288416	19860327
PRAI	DD 1986-288416		19860327		
AB	Pos.-working photoresists with decreased surface roughness are composed of .gtoreq.1 deriv. of a 1-oxo-2-diazoarenesulfonic acid, .gtoreq.1 nonwater-sol., but aq. alk. soln.-swellable or sol. binder, such as a novolak resin, further additives as solvents, dyes, and/or hardeners, and a fluoroorg. compd. of the formula C ₆ F ₆ -a[O(CH ₂) _n (CF ₂) _m R]a (R = H or F; a = 1-3; m = 2-10; n = 1 or 2). Thus, to a soln. contg. a semialternating o-cresol-p-cresol-bis(p-cresol) novolak resin, 3,4,5-tris(1'-oxo-2'-diazonaphthenesulfonyloxy-5')benzophenone, BuOAc, ethylglycol acetate, and xylene was added 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-henicosafluorododecylpentafluorobenzene and the soln., filtered, coated on a SiO ₂ -coated Si wafer and dried to show a surface roughness of 10 nm.				
IC	ICM G03C001-72				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	fluoroalkylperfluorobenzene surfactant photoresist surface roughness; perfluorobenzene fluoroalkyl photoresist surface roughness				
IT	Surfactants (fluoroalkylperfluorobenzenes as, pos.-working photoresists contg., for decreased surface roughness)				
IT	Phenolic resins, uses and miscellaneous RL: USES (Uses) (novolak, pos.-working photoresists contg. fluoroalkylperfluorobenzene surfactants and, for decreased surface roughness)				
IT	Resists (photo-, pos.-working, contg. fluoroalkylperfluorobenzene surfactants for decreased surface roughness)				
IT	114651-34-2 RL: USES (Uses) (pos.-working photoresists contg. fluoroalkylperfluorobenzene surfactants and, for decreased surface roughness)				
IT	114750-77-5 RL: USES (Uses) (pos.-working photoresists contg. novolak resins and fluoroalkylperfluorobenzene surfactants and, for decreased surface roughness)				
IT	114713-07-4 114713-08-5 114713-09-6 114750-76-4 RL: USES (Uses) (surfactants , pos.-working photoresists contg., for decreased surface roughness)				
IT	114713-07-4 RL: USES (Uses) (surfactants , pos.-working photoresists contg., for decreased surface roughness)				
RN	114713-07-4 HCAPLUS				
CN	Benzene, tetrafluorobis[(2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9-hexadecafluorononyl)oxy]- (9CI) (CA INDEX NAME)				



2 (D1-F)

D1-O-CH₂-(CF₂)₇-CHF₂

L48 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1987:608760 HCAPLUS

DN 107:208760

TI Photographic matting agents and antistatic **surfactants**

IN Kobayashi, Toru; Shibue, Toshiaki; Kunieda, Sunao

PA Konishiroku Photo Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62143046	A2	19870626	JP 1985-285221	19851217
	JP 06042054	B4	19940601		
PRAI	JP 1985-285221		19851217		

AB Photog. materials contains a F-contg. matting agent >85% of the total amt. of the matting agent and an antistatic fluorinated **surfactant** to improve their static prevention, resistance to adhesion, and uniform coating. The matting agent may be PTFE and the **surfactant** may be CF₃(CF₂)₇SO₃Na.

IC ICM G03C001-76

ICS G03C001-82

CC 74-2 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)ST matting agent **surfactant** photog material; fluorinated matting agent **surfactant** photogIT **Surfactants**

(fluorine-contg., as photog. antistatic agent, for improved static prevention and uniform coating)

IT 9002-84-0 **25656-08-0 110226-61-4 110933-73-8**

RL: USES (Uses)

(photog. matting agent, for improved **resistance** to adhesion and uniform coating)

IT **25656-08-0**

RL: USES (Uses)

(photog. matting agent, for improved **resistance** to adhesion and uniform coating)

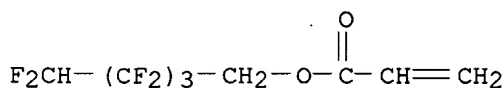
RN 25656-08-0 HCAPLUS

CN 2-Propenoic acid, 2,2,3,3,4,4,5,5-octafluoropentyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 376-84-1

CMF C8 H6 F8 O2



L48 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1987:468197 HCAPLUS

DN 107:68197

TI Developers for positive-working photoresists

IN Tanaka, Hatsuyuki; Asaumi, Shingo

PA Tokyo Ohka Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

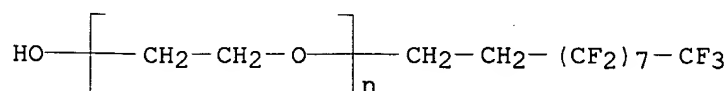
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62032451	A2	19870212	JP 1985-171833	19850806
	US 4784937	A	19881115	US 1986-892646	19860804
PRAI	JP 1985-171833		19850806		
	JP 1985-171834		19850806		
AB	The title developers, contg. metal ion-free org. bases and 50-500 ppm F-contg. nonionic surfactants , are suitable for pos.-working photoresists contg. quinone diazides and show reduced temp.-dependence during development. An exposed pos.-working photoresist produced uniform patterns at 15-40.degree. in 30 s when developed with an aq. soln. contg. 2.38% tetramethylammonium hydroxide and 500 ppm F3C(CF2)7(CH2CH2O)10H.				
IC	ICM G03C005-24				
	ICS G03C001-72; G03F007-00; G03F007-08				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	photoresist pos developer org base; fluorine nonionic surfactant tetramethylammonium hydroxide; choline tetramethylammonium hydroxide developer photoresist				
IT	Resists				
	(photo-, pos.-working, developer for, contg. fluoro compd. surfactant)				
IT	29117-08-6	58228-15-2	109636-63-7	109636-64-8	
	RL: USES (Uses)				
	(surfactants, developer contg., for pos.-working photoresist)				
IT	58228-15-2				
	RL: USES (Uses)				
	(surfactants, developer contg., for pos.-working photoresist)				
RN	58228-15-2 HCAPLUS				
CN	Poly(oxy-1,2-ethanediyl), .alpha.-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptafluorodecyl)-.omega.-hydroxy- (9CI) (CA INDEX NAME)				



L48 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2003 ACS

AN 1987:449590 HCAPLUS

DN 107:49590

TI Developer for positive resists

IN Tanaka, Hatsuyuki; Obara, Hidekatsu; Sato, Yoshiyuki; Asaumi, Shingo; Nakayama, Toshimasa; Yokota, Akira; Nakane, Hisashi

PA Tokyo Ohka Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62032452	A2	19870212	JP 1985-171834	19850806
	JP 05067028	B4	19930924		
	US 4784937	A	19881115	US 1986-892646	19860804
PRAI	JP 1985-171833		19850806		
	JP 1985-171834		19850806		

AB The title developers, based on metal-free org. bases, contain 50-5000 ppm anionic F-contg. **surfactants**. The addn. of the **surfactants** provides very uniform developability of the pattern and much improved stability of the line width. The addn. also shortens the development time, and decreases the temp.-dependence of the development. To an aq. soln. contg. 2.38% Me4NOH was added 100 ppm F15C7CO2NH4 and the soln. was used for development of an exposed pos. resist on Si wafer. Patterns with uniform line widths were obtained by 20-s development. A control developer not contg. the **surfactant** required 60 s for the same results.

IC ICM G03C005-24

ICS G03C001-72

ICA G03F007-08; G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)ST developer resist fluorine contg **surfactant**; pos resist fast working developerIT **Surfactants**

(fluorine-contg., for fast-working developer for pos. photoresists)

IT Resists

(photo-, pos.-working, fast-working developer contg. fluorine-contg. **surfactant** for)

IT 62-49-7 75-59-2, Tetramethylammonium hydroxide

RL: USES (Uses)

(photoresist developer contg. fluorine-contg. **surfactant** and, fast-working)

IT 335-67-1 335-76-2 1763-23-1 3825-26-1

109299-34-5 109299-35-6 109299-36-7

RL: USES (Uses)

(**surfactants**, for fast-working developer for pos. photoresist)

IT 335-67-1

RL: USES (Uses)

(surfactants, for fast-working developer for pos.

photoresist)

RN 335-67-1 HCAPLUS

CN Octanoic acid, pentadecafluoro- (8CI, 9CI) (CA INDEX NAME)

 $\text{F}_3\text{C}-(\text{CF}_2)_6-\text{CO}_2\text{H}$